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THEORETICAL ASPECTS OF RADIOGRAPHY.[1]

By WARNFORD MOPPETT, M.D., Ch.M.,
From the Biophysical Laboratory, The Department of Physics, The University of Sydney.

THIS paper contains a brief review of certain well known facts which bear upon the quality of X ray photographs. The matter is presented from a theoretical aspect which, I hope, will show some features of novelty and interest.

It is well known that for practical purposes X rays cannot be reflected or refracted. The wave length is so small that mirrors or lenses are rough by comparison and the principle of the ordinary camera cannot be applied. The property of X radiation travelling in straight lines furnishes two methods by which the picture of an object can be obtained, that the pin-hole lens and that of the silhouette or shadow picture.

The Pin-Hole Lens.

The pin-hole lens furnishes a true image of any object emitting or reflecting X radiation. The common application is in the investigation of the form of the focal spot in an X ray tube (Figure III). In such a case the object is a source of comparatively intense radiation and a photograph is obtained in a few seconds. The more general applications of the pin-hole lens to radiography is of theoretical interest only. The inefficiency is such that the method would only be available if plates were at least one hundred times more sensitive to X radiation. For practical purposes only the silhouette or shadow picture is available.

[1] This work was carried out under the control of the Cancer Research Committee of the University of Sydney and with the aid of the Cancer Research and Treatment Fund.

The Shadow Picture.

The shadow picture depends on the principle that the radiant energy travels in straight lines from a point source. A true point source would furnish a perfect image at all distances. Actually the focal spot of an X ray tube has a finite diameter, which must be small compared with the distance to the photographic plate. In Figure I the diameter of the focal spot is represented by d', the distance to the plate by l', and the distance between the object and the plate by l. If d represents the smallest distance between two objects which can be resolved on the photographic plate, the quantities are connected by the approximate formula:[1] $dl' \propto ld'$.

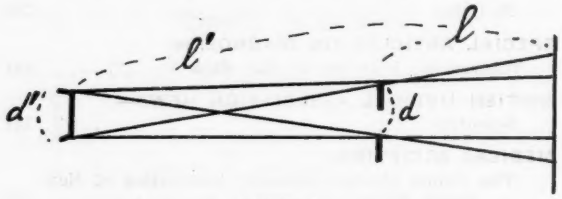


FIGURE I.

The attainable resolution is the reciprocal of d and the relation may be expressed thus: $1/d \propto l'/ld'$. Figure IV (a, b, c) shows a series of X ray photographs of a piece of copper gauze taken with different values of l and l'. As indicated by the formula, the resolution is improved when l is diminished or when l' is increased, other things being equal. The three radiographs (a, b, c) shown in Figure IV are reduced to the same magnification to facilitate comparison. Actually the magnification varies as $l' : (l' - l)$ and the time of exposure varies as the square of l'. There are thus certain restrictions in practice to the values of l and l'. It remains to restrict the value of d' in order to improve the resolution.

The focal spot of an X ray tube may be as small as one millimetre in diameter and it is always desirable to test this with a pin-hole lens, since the area may spread somewhat in an old tube. The intense local heating and destruction caused by the cathode rays restrict the minimum size of the focal spot, but the effective diameter may be diminished in one direction by utilizing the radiation emitted at grazing incidence to the target, with a certain loss of efficiency. In ordinary circumstances both the cathode rays and the X radiation used make an angle of 45° to the target.

A reference to Figure III will show that the focal spot does not represent the entire area emitting radiation. It is estimated that about 15% of the total X ray energy is given off by other parts, such as the body and stem of the target and even the glass walls of the tube. This radiation increases the effective value of d' and it is a serious drawback to the ordinary type of tube. An experimental tube was available in which a metal plate served the double purpose of target and tube wall.[1] It was thus possible to place a lead cover with a pin-hole aperture close to the target and to restrict the source of radiation to any extent desired, as will be apparent from the diagrammatic sketch (Figure II). A somewhat extensive research would be required to take full advantage of this principle, but a radiograph of a rat, reproduced in Figure V, was taken when the aperture d' was 0·01 centimetre and the distance l' was 50 centimetres. Laboratory arrangements were not convenient for the exposure of a living subject and a formalin-preserved specimen was used in which the small arteries show up after injection with a lead paste.

[1] In the theoretical limit when resolution disappears $dl' = ld'$, and for complete resolution $dl' = 2ld'$.

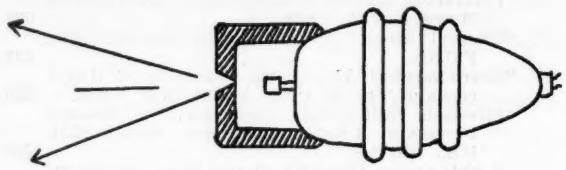


FIGURE II.

Scattering of Rays.

When a beam of X rays strikes an object, secondary or scattered radiation is produced. This tends to travel to the plate in a different direction to that of the primary beam and so produce a blurred image. In Figure IV, d is a radiograph of a piece of gauze in a jar of water; the distances when this photograph was taken were similar to those used in making Figure IV, b (l' = 50 centimetres and l = 5·0 centimetres). The definition is marred by the radiation scattered from the jar of water.

The scattering of X rays is a fairly complex process, but the output of secondary radiation varies approximately as the fourth power of the atomic weight of the element in question. It is therefore particularly necessary to prevent the rays striking any object which contains heavy atoms, such as the metal parts of the table. It is impossible to avoid a certain amount of scattering, but the consequent interference may be minimized by keeping the plate a reasonable distance from any such object, since the intensity relative to the primary beam falls off rapidly. A large part of the scattered radiation is softer or less penetrating than the primary beam and it may be removed by means of a suitable filter. A more effective method is provided by a "grid" which only allows radiation coming from the direction of the target to reach the plate. This appliance is in common use and need not be described.

Contrast.

The X ray shadow picture differs from the optical silhouette in that all objects are relatively transparent, so that contrast comes to be almost as important as resolution. The depth of shadow produced varies with the density of the object, other things being equal, so that a fibrous mass may show up clearly against the surrounding tissues. When heavy atoms are present the relative absorp-

ILLUSTRATIONS TO THE ARTICLE BY DR. WARNFORD MOPPETT.

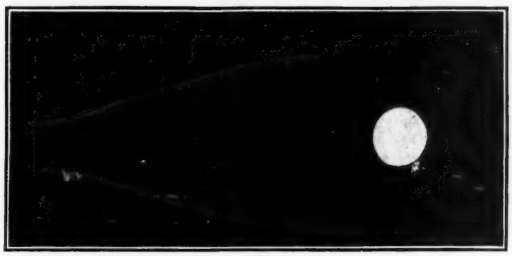
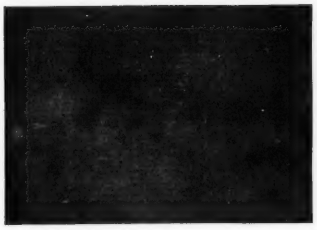
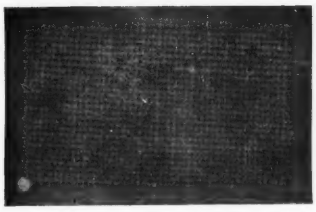


FIGURE III.

FIGURE V.

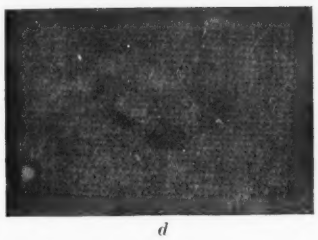


a



b

c

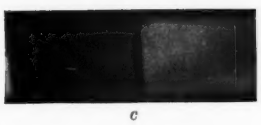


d

FIGURE IV.

a

b



c

FIGURE VI.

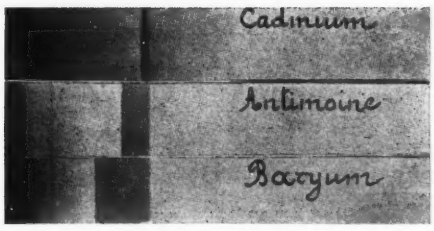


FIGURE VII.

ILLUSTRATIONS TO THE ARTICLE BY DR. R. K. LEE BROWN.

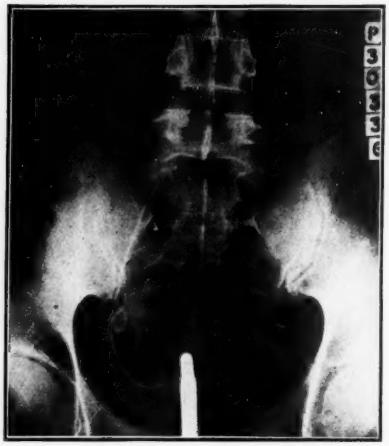


FIGURE I.

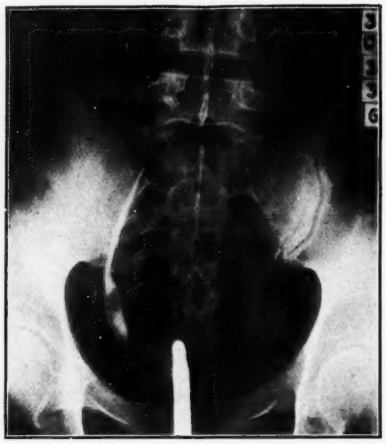


FIGURE II.

FIGURE III.

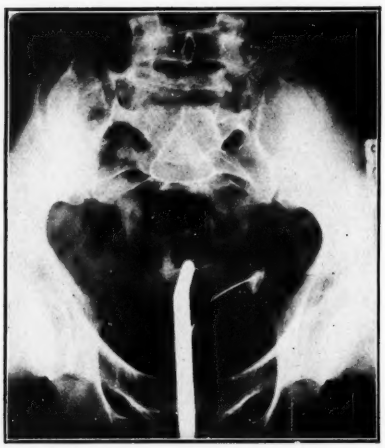


FIGURE IV.

FIGURE V.

FIGURE VI.

ILLUSTRATIONS TO THE ARTICLE BY DR. R. ANGEL MONEY.

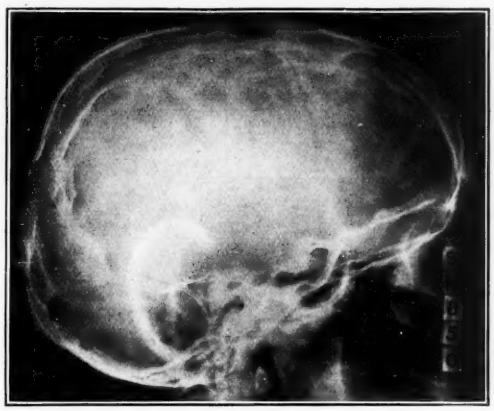


FIGURE IV.
Plain lateral skiagram of skull.

FIGURE V.
Plain antero-posterior skiagram of skull.

FIGURE VI.
Showing air in lateral ventricles with definite dilatation of all horns.

FIGURE VII.
Postero-anterior skiagram, showing enormous dilatation of lateral ventricles.

ILLUSTRATIONS TO THE ARTICLE BY DR. HERMAN LAWRENCE AND DR. ROBERT BRODIE.

FIGURE I.
Demodex of pig showing the spike-like termination of the abdomen.

FIGURE II.
Demodex of pig showing the spike-like termination of the abdomen.

ILLUSTRATIONS TO THE ARTICLE BY DR. E. H. M. STEPHEN AND DR. FRANK TIDSWELL.

FIGURE I.
A reproduction of an X ray photograph, showing the large fusiform swelling on the left femur and the narrower lesion on the right femur.

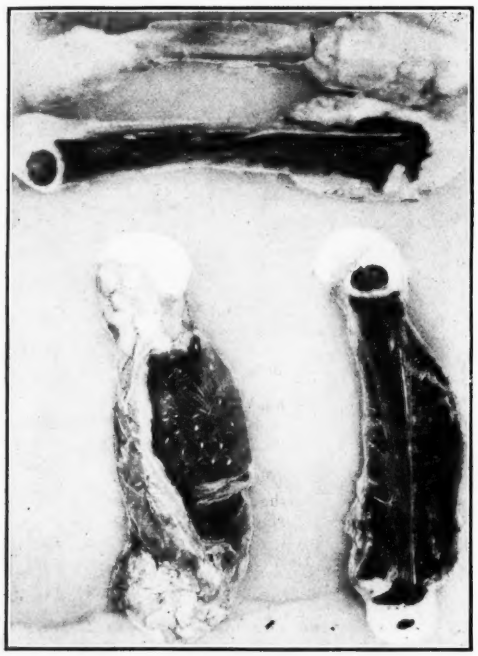


FIGURE II.
Pathological preparation, showing the hæmorrhagic subperiosteal lesion on the left (lower) and right (upper) femora.

tion is much greater than the density would indicate, since absorption varies roughly as the fourth power of the atomic weight. In Figure VI, a, a 1% solution of lead nitrate in a test tube shows up clearly against a tap-water control, both being immersed in a large jar of water to imitate the unfavourable conditions present in the human body.

The increased absorption associated with the presence of heavy atoms is not uniform for all wave lengths. Each element has a characteristic absorption edge at a certain wave length, where the absorption may be greatly increased. The wave lengths of the absorption edges for different elements are connected by Moseley's law, $N^2 = k/\lambda$, where N is the atomic number and λ the wave length. In Figure VII is shown a series of absorption edges of cadmium (Number 48), antimony (Number 51) and barium (Number 56), whilst AB represents a reversed band due to the presence of silver (Number 47) in the plate (from de Broglie's "X-Rays"). It will be seen that the presence of an element may be demonstrated clearly in contrast to its background by means of suitable homogeneous radiation. In Figure VI, b, a test tube containing a 4% solution of potassium iodide (with a lead strip in the centre) is shown in comparison with a control, both being immersed in a glass jar of water. In the above instance the voltage on the constant potential generator was 30 kilovolts. In Figure VI, c, a voltage of 45 kilovolts was used, so that the characteristic absorption edge of iodine should be excited (33·5 kilovolts) and the contrast is greatly increased. An iodine compound is used in radiography of the gall bladder.

A consideration of the elementary principles quoted above will render apparent the reason for many of the technical manœuvres in connexion with the taking of a radiographic picture, and the possibility of further improvement is suggested. A better picture will often make all the difference in obtaining a diagnostic result, and it appears likely that there is still room for improvement both in the design of apparatus and in certain matters of technique.

Acknowledgement.

I wish to thank Dr. Chapman, Director of Cancer Research, for the facilities for carrying out this investigation.

Reference.

(1) Warnford Moppett: "The Construction of an Experimental X Ray Tube to Furnish the Homogeneous K Radiations of Uranium," *The Journal of the Cancer Research Committee*, November 1, 1930.

Legends to Illustrations.

FIGURE III.
Pin-hole photograph of the target of an X ray tube.

FIGURE IV.
Showing a radiograph of a piece of copper gauze.
(a) Distance to target (l') equals 50 centimetres. Distance to plate (l) equals 15 centimetres.
(b) l' equals 50 centimetres, l equals 5 centimetres.
(c) l' equals 20 centimetres, l equals 5 centimetres.
(d) Gauze in a jar of water, showing the loss of resolution by scattered radiation. l' equals 50 centimetres, l equals 5 centimetres.

FIGURE V.
Radiograph of a rat, the arteries being injected with a preparation containing lead.

FIGURE VI.
(a) Showing absorption by a 1% solution of a lead salt (a positive with control on right).
(b) Showing absorption by a 4% solution of potassium iodide (a positive print).
(c) Showing increased contrast obtained by taking advantage of the absorption edge of iodide (a positive print).

FIGURE VII.
Typical absorption spectra (after de Broglie).

URETERAL STONE.[1]

By R. K. LEE BROWN, M.D., F.C.S.A.,
Honorary Urological Surgeon, Royal Prince Alfred Hospital, Sydney.
[From the Department of Urology, Royal Prince Alfred Hospital, Sydney.]

URETERAL stone, from the standpoint of symptoms, diagnosis and treatment, constitutes the most interesting condition of stone anywhere in the urinary tract. From the symptomatic point of view it is sometimes hard to realize the variety of symptoms which may be met. The extreme discomfort generally produced by the mere passage of some renal sand compared with the practical absence of discomfort sometimes met in a stone of huge dimensions, is hard to associate with the same condition.

The diagnosis of ureteral stone should not be a difficult one, though at times considerable difficulty may be experienced in demonstrating its presence. When dealing with very small gravel this may be impossible. In the case of transradiant stone it may be difficult to convince yourself or your patients of its presence without a complete cystoscopic investigation. The variation in discomfort between acute and chronic conditions is extreme; once the acute stage has passed off, a minute ureteral stone may develop into one of huge dimensions and produce practically no discomfort whatever. It may become almost symptomless except for the presence of abnormalities in the urine. Under these conditions patients who have not been examined by X rays are frequently treated as suffering from pyelitis, the presence of a calculus being overlooked owing to the picture of ureteral stone being one of colic. Ureteral stone is generally secondary to renal, the stone being formed in the renal pelvis and subsequently passing into the ureter.

Ætiology.

The ætiology of stone formation is one of great variety and complexity. In considering the formation of stone we should divide it into two classes: (i) When infection is absent, (ii) when infection is present. In the absence of infection there are several factors which seem conducive to the formation of stone. Certain people pass gravel periodically and in between attacks have a perfectly clear

[1] Read at the first annual reunion of the Royal Prince Alfred Hospital Residents' and Ex-Residents' Association, October 7 to 11, 1930.

urine. This condition seems unquestionably due to metabolic derangement, and results from an intake of a diet containing too large an amount of salts to remain in solution when excreted by the kidneys and are therefore deposited.

A further cause of stone formation is some factor which alters the surface tension of the urine. Urine tends to deposit salts on anything that alters its surface tension, so that any foreign body introduced will serve as a nucleus for stone formation. A lot has been said, but not much seems to be known of the protective action of the urinary colloids. This mechanism does exist, as the amount of salts, such as uric acid, which can be held in solution in a given quantity of urine, is much in excess of the amount that can be held in an equal amount of distilled water. Anything upsetting this colloidal balance will tend to disturb the protective action of the urinary colloids and thereby permit the deposition of salts. There does not seem to be much doubt that the excessive intake of fluid very rich in mineral salts may under some conditions lead to stone formation. This may occur in the first place without infection being present, but the continued presence of a stone generally means that infection is soon added. As an example of this, one may take the men living on bore water in some of our inland areas. These areas are extremely hot during the summer, and the bore water often most palatable owing to the presence of the salts in it. Men doing hard physical work in the heat drink copiously of this water. As a result most of this fluid intake is lost in perspiration, leaving a fluid already very rich in salts which have to be eliminated, very greatly concentrated. When the waste products resulting from nitrogenous metabolism produced by the strenuous physical work are added to this, it seems that the fluid content of the urine, in spite of the urinary colloids, becomes supersaturated and the salts become deposited. Men from certain of these inland areas have passed large numbers of ureteral stones and they have stated that the condition is not confined to humans, but that the stock, too, when killed, commonly show renal stone.

When infection is present, this phenomenon can be demonstrated much better. For instance, in cases of profuse and persistent phosphaturia, such as one sees from time to time, with the passage of cloudy urine with thick, ropy, muco-phosphatic deposits, this condition results from an alteration in the reaction of the urine due to the presence of a urea-splitting organism. This organism is frequently present only in the lower tract, so that in these cases the urine, when obtained direct from the renal pelvis, is quite clear, while the urine obtained from the bladder is thick and cloudy. The subjects of this particular condition are generally men and are almost invariably subject to chronic prostatitis, the urea-splitting organism being derived probably from that source.

The presence of infection in the urine may act as the starting point of stone in two ways: (i) Owing to its action as a urea-splitter causing an alteration in the reaction of the urine and rendering it more alkaline. In this state it cannot hold the phosphates in solution and permits them to deposit. This deposition may go on ultimately to stone formation. (ii) The presence of infection may set up a lesion in the mucosa from which a particle of necrotic tissue or a clump of organisms may become detached and form the nucleus of a stone.

There seems to be no doubt that occasionally stone, especially renal, may originate from a long standing infection elsewhere in the body. Any long infective illness confining a patient to bed for some months may become complicated by advanced stone formation during its course.

Symptoms.

The symptoms of ureteral stone in the acute stages are its classical ones of renal and ureteral colic, and, if very acute, generally accompanied by nausea and vomiting. The pain of ureteral colic, if the obstruction is high up in the ureter, will radiate from the loin round to the groin. Sometimes, if the obstruction is in the lower end of the ureter, the pain may radiate from the groin back to the loin. One interesting symptom associated with stone in the ureter is the intense vesical irritability sometimes produced. This, according to Braasch, is due to the presence of stone in or at the intramural portion of the ureter. Vesical irritability and frequency are therefore rather a good sign, indicating that the stone or obstruction has passed almost into the bladder. If the stone refuses to pass, the acute attack ultimately passes off, only to be followed by a similar attack in the near future. If, in spite of repeated attacks of colic, the stone still persists, the attacks become less and less frequent, until ultimately in the chronic cases they pass off altogether. This is apparently due to the stimuli being no longer adequate to set up the reflex or else to the ureter dilating round the stone, thereby permitting the free passage of urine past it. Under these conditions very little discomfort may be experienced and the diagnosis will have to depend on the urinary, radiographic and cystoscopic findings.

Diagnosis.

The diagnosis of ureteral stone will depend on the physical, urinary, cystoscopic and radiographic findings. The urine will generally show the presence of albumin, pus and blood in the acute stages, with blood probably predominating. In the chronic stages pus will predominate and infection will almost invariably be present. The radiographic findings combine both the plain skiagram and the ureterogram. The plain plate with or without an opaque catheter in position may be of no value, as a certain proportion of these stones are transradiant. This feature is sometimes overlooked. In order to appreciate the reason for this, one of the standards of radiography must be remembered, namely, that the specific opacity of a substance depends on its atomic weight. A urinary calculus, generally being of complex composition, will have

a relative opacity depending on the total atomic weight of its constituents, and will be further influenced by its structure and thickness. If a calculus be composed chiefly of such constituents as calcium (atomic weight 40), potassium (39), sulphur (32), and phosphorus (31), it will naturally cast a dense shadow, but, on the other hand, as the atomic weight becomes less, so will there occur a corresponding diminution in the density of the shadow cast. Calculi composed of uric acid, xanthin, urates and triple phosphates are of such low atomic weight that they may fail to cast any shadow. If the stone casts a definite shadow, it may be seen lying directly against the tip or side of the ureteral catheter. If the catheter has been manipulated past the stone, the injection of some pyelographic media will demonstrate a dilatation of the ureter down to the site of the stone. On the other hand, if the calculus is blocking the ureter and the catheter cannot be manipulated past it, the injection will demonstrate the passage of the media up to the obstruction and then a regurgitation back into the bladder. A further method of demonstrating the small transradiant stones is by means of a wax-tipped catheter. A ureteral catheter with a small wax bulb on its tip is carefully passed up the ureter, and if a calculus is present, a scratch is produced on the wax. Stones can often be detected in this way when every other means fails.

The majority of ureteral stones tend to pass spontaneously. This passage naturally is influenced by the size and shape of the stone. Provided a stone is smooth, it is surprising the size that will sometimes pass unaided. Irregularity in shape seems to render spontaneous elimination more difficult than actual increase in size. An irregular, spiked calculus has great difficulty in passing down the ureter, a small stone of this type often necessitating open operation for its removal. The ability of the ureter to dilate is one of the primary requirements in the passage of a ureteral calculus. Anything interfering with the normal elastic musculature of its walls, such as fibrosis or stricture formation, checks the normal dilatation and arrests the stone. This is sometimes seen at the site of a previous uretero-lithotomy, where a subsequent ureteral stone may become arrested. This is due not only to a narrowing at this site resulting from the previous post-operative fibrous tissue formation, but also to the fibrosis preventing the ureter from dilating in a normal way. In the normal ureter there are certain points at which a calculus becomes arrested more frequently than others. Of these the ureteropelvic and uretero-vesical junctions are by far the most common. Next in order seems to be the point at which the ureter crosses the brim of the pelvis, and in a woman the point at which the ureter passes under the broad ligament.

There are certain radiographic conditions which very closely simulate ureteral calculus. Phleboliths, calcified glands and foreign bodies lying in line with the ureter may very closely resemble ureteral calculus in a plain radiograph. Urinary examination and cystoscopic investigation alone will definitely settle the question. If the urinary findings are quite normal, the shadow is unlikely to be a calculus. The passage of an opaque ureteral catheter will give more evidence, as obstruction will most probably be felt during its passage and generally considerable manipulation will be required in getting past the calculus. When the catheter is in position it can be clearly seen if the shadow is lying against it. Sometimes a phlebolith or gland will be in close contact with a catheter or perhaps directly overlie it. In this case a lateral or stereoscopic skiagram will greatly help in the diagnosis. The greatest help, however, will be obtained from the ureterogram, in which the ureteral limits can be clearly defined, and any alteration, dilatation or obstruction demonstrated. A calcified omental gland overlying the kidney or ureter is often of interest. When first seen it may very closely resemble a calculus; however, a subsequent repetition of the X ray examination at a later date may show the shadow to be inches away from its original site.

Certain abnormal conditions are sometimes met which render the diagnosis of ureteral stone more difficult. In the case of a double or branched ureter, the catheter may pass unobstructed up the free portion and the skiagram show a shadow well removed from the catheter. Unless this condition is recognized, the investigator will be led astray. A stone may become lodged in a small diverticulum of the ureter, either one that was already in existence or else one formed owing to herniation of the ureteral wall caused by the continued presence of a stone at some particular site. By this means the lumen remains patent and the obstructive element is removed.

Stones lodged in a rudimentary ureter are capable of giving the surgeon some operative anxiety if the condition is not diagnosed cystoscopically. A case of this type was recently met.

A patient complained of a persistent dull pain in the left groin. No actual colic was present, and his urine contained only a few pus cells. A skiagram showed a definite shadow, twelve by eight millimetres (half by one-third inch), lying at the site of the left uretero-vesical junction. At cystoscopy a catheter could not be passed more than sixteen millimetres (two-thirds of an inch) up the left ureter. A plain skiagram showed the point of the catheter to be lying against the stone shadow (Figure IV). This observation was repeated one week later. At operation he was found to have complete absence of any kidney or ureter on that side, excepting a rudimentary stump about one inch long, attached to the bladder, and in which the calculus was lodged.

Excessive size of a ureteral stone may be sometimes misleading, Figure VI illustrating a case of this type. This enormous stone, except for the urinary findings, was practically symptomless.

The patient was a single man, aged twenty-seven, his only complaint being a dull ache in the right loin for one month, together with a run-down state of health for six weeks. When questioned about his urine, he stated that it was cloudy, but otherwise it did not worry him. It seems hard to imagine how a calculus of such dimensions could exist and remain practically symptomless. This stone was removed at operation, a complete nephro-

ureterectomy, the kidney being huge, completely disorganized and the site of pyonephrosis.

Treatment.

The treatment of ureteral stone will usually be, first, medical expectant measures followed by cystoscopic manipulation, and, finally, in the case of these two failing, open operation. This state of affairs may be altered under special conditions. For instance, a patient having a fair sized stone lodged in the ureter of a single kidney and causing either complete or marked obstruction, must not be left very long under expectant treatment. If the calculus does not show signs of moving spontaneously or following cystoscopic manipulation, open operation should be resorted to before evidence of renal insufficiency or renal damage develops. There is no doubt that a calculus which is capable of getting past the uretero-pelvic junction is generally capable of getting past other points in the ureter till the uretero-vesical junction is reached, where an increased degree of obstruction is universally met. Of the medical measures employed to aid the passage of a calculus, copious fluid is the chief one. Drugs given for the relief of pain are always welcome, but they generally act by checking the colic which is Nature's way of expelling the irritating agent. In spite of this, a temporary relief from Nature's enthusiastic endeavours is sometimes essential.

The cystoscopic treatment of ureteral stone will generally prove efficacious and will depend on the site of the stone. By manipulation it is usually possible to get a ureteral catheter past the calculus; this relieves the tension in the kidney by allowing the urine to escape. Having introduced a catheter past the stone, it is best to leave it in place for some time. This procedure will assist in several ways: (i) It permits the urine to escape and relieves the kidney. (ii) The presence of the catheter in the ureter causes it to dilate and thereby facilitates the passage of the stone. (iii) Its presence alongside a calculus prevents the ureter from gripping it on all sides and so lessens the friction. The use of oil and other substances injected into the ureter above the stone to assist in its passage is employed by some men, but the value of this procedure seems to be questionable. The employment of large catheters well dilating the ureter is beneficial, especially when a calculus has become fixed and cannot be passed by a smaller catheter. Under these conditions the dilatation of the ureter below the stone will help very considerably, especially if the stone can be dislocated from the site in which it has become fixed. Numerous instruments have been devised for removal of ureteral stones by cystoscopic manipulation, the employment of which will depend on the particular case under treatment.

When medical and cystoscopic measures have both failed, open operation must be used. There are three main routes of approach for ureteral stones, all of which are, of course, extraperitoneal. If one wishes to reach the upper third of the ureter, the usual lumbar incision offers the best line of approach. In the event of the middle third being sought, a muscle-splitting McBurney incision gives excellent access, while causing the least damage. If the lowest third is required, the best possible exposure is obtained by means of a Gibson incision, which gives a very excellent exposure of the ureter right down to the uretero-vesical junction. In the event of a stone being firmly lodged at the uretero-vesical junction or in the intramural portion of the ureter, the easiest means of removing it is transvesically. By opening the bladder through the usual suprapubic incision the stone can be felt in the ureter through the bladder wall. By means of a vulsellum forceps it can be fixed and prevented from slipping up the ureter. A pair of ureteral forceps now introduced through the ureteral orifice can grip the stone and deliver it into the bladder. This is the simplest of all the open surgical procedures, as there will be no hæmorrhage or urinary leakage if the bladder is sewn up tight and an indwelling urethral catheter introduced.

In many cases it is advisable to wait until the stone reached a position from which it can be removed by these means, as the drainage from an extravesical approach to the lower end of the ureter is bad.

Ureteral stone presents at times such varying symptoms and difficulties in diagnosis that it forms a most interesting clinical condition. Recovery from ureteral stone may be so very simple at times, while, on the other hand, the most complicated and dire results may be the outcome of unsuccessful operative interference.

Legends to Illustrations.

FIGURE I.
Typical appearance of a ureteral stone lying in close apposition to a ureteral catheter.

FIGURE II.
Same case as Figure I, illustrating the diagnostic value of a ureterogram in determining the presence of a stone. The dilatation of the ureter round the stone is well demonstrated, also the inclusion of the stone shadow within its limits.

FIGURE III.
Shadow closely simulating ureteral stone lying in close apposition to the ureteral catheter but not actually in contact with it. This shadow is not cast by a ureteral stone.

FIGURE IV.
Stone lying in a rudimentary ureter which was only about one inch in length. The tip of the ureteral catheter can be seen coiled round the stone.

FIGURE V.
Ureterogram showing hugely dilated ureter, in the lowest portion of which numerous transradiant stones can be detected. The obstruction in the ureter was caused by these stones which failed to cast a shadow in the plain skiagram.

FIGURE VI.
An extremely large ureteral stone which was practically symptomless except for a marked degree of pyuria.

NEURO-SURGICAL AIDS IN THE DIAGNOSIS OF HYDROCEPHALUS.[1]

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The Origin and Pathways of the Cerebro-Spinal Fluid.

THE cerebro-spinal fluid takes origin in the chorioid plexuses of the lateral and third ventricles;

[1] Read at the first annual reunion of the Royal Prince Alfred Hospital Residents' and Ex-Residents' Association, October 7 to 11, 1930.

whether by mechanical filtration or by active secretion, is still uncertain. Thence it flows through the third ventricle, along the aqueduct of Sylvius into the fourth ventricle. It leaves the ventricular system by passing into the *cisterna magna* through the central foramen of Magendie and the two lateral foramina of Luschka in the roof of the fourth ventricle. Once in the *cisterna magna*, some of it may flow downwards into the spinal subarachnoid space, where the absorption is small, but the major portion is directed forwards and upwards into the *cisterna pontis* through the narrow opening in the *tentorium cerebelli* into the *cisterna interpeduncularis* and *cisterna chiasmatis*. Finally, it passes upwards over the cerebral hemispheres to be absorbed into the longitudinal sinus by the large arachnoid villi, called the Pacchionian bodies, and by numerous other smaller arachnoid villi projecting into all the intracranial sinuses. These pathways are represented schematically in the diagrams (Figures I and II).

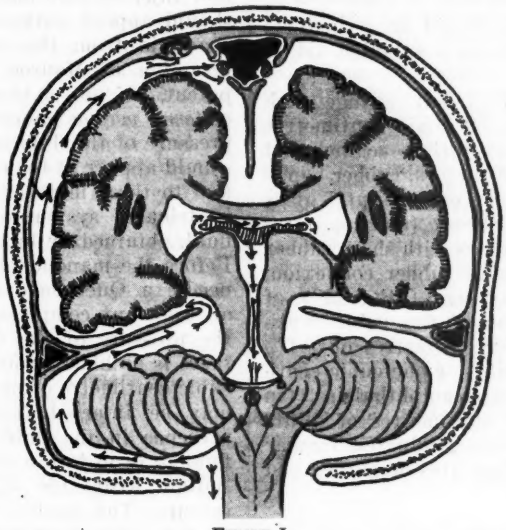

FIGURE I.
Schematic view of the pathways of the cerebro-spinal fluid in a modified coronal section.

Hydrocephalus.

Hydrocephalus may be defined as a "pathological collection of cerebro-spinal fluid." It is due to a lack of balance between the production and absorption of the cerebro-spinal fluid and can be produced in four ways:

1. Obstruction of the narrower portions of the intraventricular pathway may cause what is known as "internal hydrocephalus." This is most likely to occur at either (A) the foramen of Monroe between each lateral and the third ventricle, when it is known as "unilateral internal hydrocephalus," or (C) the aqueduct of Sylvius, due to pressure on it from a tumour or other lesion obliterating its lumen, or (D) the foramina in the roof of the fourth ventricle, if they become closed by adhesions, pressure from tumours *et cetera* (Figure II).

2. Interference with the flow through the narrow *incisura tentorii* may cause "communicating hydrocephalus."

3. Occlusion of the Pacchionian bodies and other arachnoid villi, due to absorption of products of inflammation, trauma, sclerosis *et cetera*, or interference with the pathways through the cisternæ and over the hemispheres may result in a condition called "external hydrocephalus." (F and G, Figure II.)

4. Excessive secretion of fluid, greater than can be absorbed, may result in hydrocephalus. This condition is due to hypertrophy of the chorioid plexuses and is rarely met with. Cushing reported one case, with photographs, in his Cameron Lectures in 1925, and the condition has been produced by experimental occlusion of the *vena cerebri magna* of Galen.

Methods of Investigation.

In order to diagnose the site of the obstruction causing hydrocephalus, a definite routine should be followed:

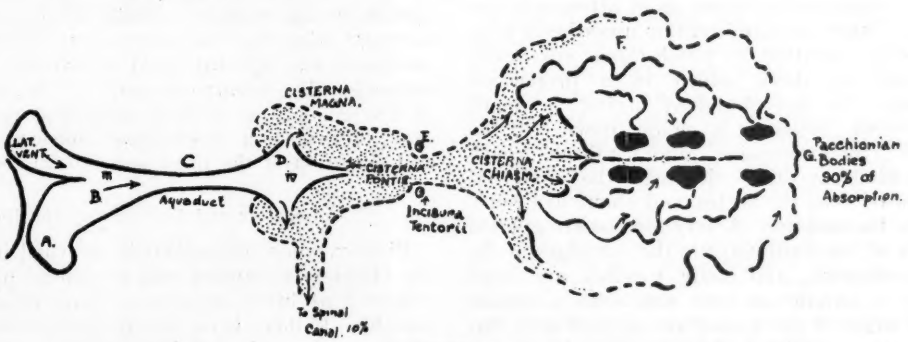

FIGURE II.
Schematic view of the circulation of the cerebro-spinal fluid in modified horizontal section.

1. Plain antero-posterior, postero-anterior and lateral stereoscopic Röntgenograms should be made, to reveal the presence of calcified suprasellar, pituitary, intraventricular or other intracranial tumours, old hæmorrhages or cysts *et cetera*. Pineal body shift, enlarged *sella turcica* and erosion of the petrous portion of the temporal bone also afford valuable localizing information.

2. Lumbar puncture or *cisterna magna* puncture should be performed and the pressure of the cerebro-spinal fluid measured with a manometer. Internal hydrocephalus results in a high pressure and a scanty flow; hydrocephalus of other varieties causes the pressure to be raised above the normal 80-110 millimetres of water, and the flow is continuous.

3. The ventricular content should be estimated; and the injection of dyes may be a valuable aid to diagnosis.

The equipment consists of: Labat syringe with needles for local anæsthesia, 50 cubic centimetres of 1% "Novocain"-adrenalin solution, scalpel and artery forceps, two mastoid retractors, rubber bands (sterile), one Doyen's hand burr, one "Asepto" glass syringe. Horsley's wax pellets (sterile), two Cushing's graduated brain needles with short rubber connexions, one manometer with rubber connexion, two medicine glasses, one syringe ("Record") of one cubic centimetre and one of five cubic centimetres capacity, twenty cubic centimetres of a 1% methylene blue solution (sterile) or one cubic centimetre of neutral sulphonephenolphthalein (in ampoule) with twenty cubic centimetres of dilute sodium hydroxide solution, one graduated lumbar puncture needle; waxed silk ligatures on curved and straight needles.

Technique.

The patient's head is shaved and prepared in the usual manner. No preliminary medication is necessary except for nervous patients to whom bromides or "Luminal" may be given. Morphine is avoided lest it may unnecessarily depress the respiratory centre. The patient is placed prone on the table, with the forehead, cheeks and shoulders supported on special attachments. An estimation of the blood pressure in the brachial artery is made before the operation is begun and at intervals of fifteen minutes thereafter. Under local infiltration anæsthesia with 1% "Novocain" solution, to which *liquor adrenalini hydrochloridi* has been added in a proportion of one part in one hundred parts, a small antero-posterior incision is made down to the bone with its mid-point about three centimetres behind a line joining the external auditory meati over the vertex and about five centimetres from the mid-line. Artery forceps are applied at intervals of one centimetre to the cut edges of the *galea aponeurotica*, and their handles are fixed together in a bundle on each side with a rubber band. The edges of the wound are covered with lint soaked in saline solution and kept apart with a mastoid retractor. A small hole is now made in the skull with a Doyen's burr. The cut bone is irrigated with saline solution and any bleeding from the bone is controlled with Horsley's wax. The same procedure is repeated on the other side. A small cut is then made through the dura with a small bladed knife. A brain needle is inserted into the vestibule of one lateral ventricle. As soon as the ventricle is reached, a manometer is attached to the end of the needle and the pressure of the fluid recorded. Afterwards the amount of fluid which flows out is measured. Similar records are made on the other side. This is called "bilateral ventricular estimation" and gives valuable information concerning the relative positions and sizes of the lateral ventricles. About 0·5 cubic centimetre of 1% methylene blue solution is now injected into one lateral ventricle and the dye should appear within fifteen to twenty seconds in the fluid from the other lateral ventricle, if the foramina of Monroe and the third ventricle are patent. If not, a block exists in this vicinity. A *cisterna magna* puncture is now performed and the pressure of the fluid read in a manometer. The dye should appear in the cerebro-spinal fluid here within two to three minutes, if the pathways through the ventricular system are open; or, in the lumbar fluid, obtained by lumbar puncture, in five minutes. Before the manometer is detached from the cistern needle a Queckenstedt test can be performed, by an assistant compressing both jugular veins, when the pressure of the fluid will rise immediately if there is no block around the *foramen magnum*. One cubic centimetre of neutral sulphonephenolphthalein may be injected instead of methylene blue; its presence in the fluid is recorded by allowing the fluid to drop into a few cubic centimetres of dilute sodium hydroxide solution, when it turns a red colour. The needles are then withdrawn and the wounds closed carefully in two layers—the *galea aponeurotica* and skin—with interrupted waxed silk sutures.

Ventriculography.

If the information thus far has proved inconclusive and there has not been revealed any pronounced degree of increased intracranial tension, the fluid withdrawn from each ventricle may be replaced by air, drawn through moist antiseptic gauze with a syringe with a capacity of five cubic centimetres, taking care to insert about ten cubic centimetres of air less than fluid withdrawn. This procedure is called "ventriculography." A further series of Röntgenograms is then taken and valuable and exact information is obtained concerning the size and situation of the third and lateral ventricles.

Absorption and Excretion of the Dye.

Finally, when the patient is returned to the ward, the bladder is emptied and specimens of urine are collected at intervals of two hours or as often as possible. If there is no interference to the pathways of the cerebro-spinal fluid from the *cisterna magna* to the Pacchionian bodies and its absorption, the methylene blue should appear in the urine in two hours, whilst a specimen taken twelve hours after injection should be deeply coloured. If one cubic centimetre of sulphonephenolphthalein has been used, a quantitative estimation may be made; 40% to 60% is normally recovered in the urine at the end of two hours. Results not up to these standards would indicate a communicating or external hydrocephalus.

Encephalography.

To distinguish between the two varieties, communicating and external hydrocephalus, it would then be necessary to withdraw fluid and inject air either by the suboccipital or lumbar route (encephalography) and take a further series of Röntgenograms. If no air were found above the *tentorium cerebelli*, communicating hydrocephalus would then probably exist, whilst subarachnoid adhesions or obliteration of the pathways in the cisterns and over the hemispheres would be indicated by failure of the air to appear in the cortical channels. Failure of any air to enter the ventricles would also confirm the diagnosis of internal hydrocephalus at the fourth ventricle. The findings from encephalography cannot, however, be interpreted with as much accuracy as those from ventriculography and always need confirmation by repetition some days later; thus it is not advocated as a routine method.

Clinical Example of Hydrocephalus.

A male patient, aged twenty years (Figure III), was seen in consultation with Dr. Eric Susman. When first examined, about five months ago, he complained of increasing enlargement of his head during the previous three years. As an infant he had taken convulsions almost daily for two months. He talked when eighteen months old, but did not walk till he was four years old. All his life he has been subject to transient attacks of loss of memory for a few minutes. Recently he has had attacks of pain in the head, mostly at night, from the nasion to the inion. He stated that the right side of his body had always been weaker than the left. Physical examination revealed an enormous head; the right pupil was larger than the left and there was a slight degree of optic atrophy, especially on the temporal halves of each disc. The right knee jerk was more active than the left. Nothing else definitely abnormal was detected. The patient was admitted to hospital and the following procedure carried out.

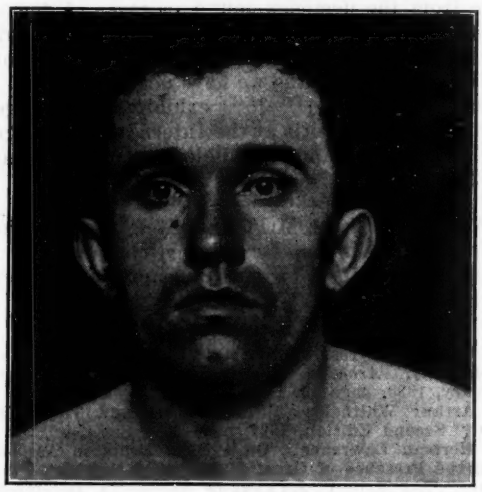

FIGURE III.
Photograph of patient with advanced hydrocephalus.

A series of plain Röntgenograms of the skull revealed evidence of an enlarged cranium with thin bones and digital impressions on the inner table, due probably to an advanced degree of hydrocephalus (Figures IV and V). Bilateral ventricular estimation was then performed. The needle entered each ventricle at a depth of about 1·5 centimetres. The pressure of the cerebro-spinal fluid in both lateral ventricles was the same, namely, 150 millimetres of cerebro-spinal fluid. About 160 cubic centimetres of clear fluid drained rapidly from each ventricle. Into the right lateral ventricle 0·5 cubic centimetre of a 1% methylene blue solution was then injected, and the colour appeared in the fluid from the left lateral ventricle thirty seconds later. *Cisterna magna* puncture was then performed and the dye appeared in the fluid from the needle five minutes after injection. About fifty cubic centimetres of air were then inserted into each lateral ventricle and the wounds were closed. Ventriculograms were taken at once and revealed an enormous symmetrical dilatation of the third ventricle and both lateral ventricles (Figures VI and VII). The chemistry of the cerebro-spinal fluid was normal and there was no reaction to the Wassermann test. The patient then returned to his bed and an endeavour was made to collect a specimen of urine at intervals of two hours. Unfortunately he was unable to pass any urine until ten hours after the injection of the dye and catheterization was not permitted. However, the specimen obtained then was heavily coloured with the dye.

The investigation proved the existence of advanced hydrocephalus without markedly increased intracranial pressure and without any obstruction in the pathways of the cerebro-spinal fluid, whilst absorption was within normal limits. The case was therefore reluctantly classified as belonging to the rare fourth group, due to hypertrophy of the chorioid plexuses and excessive secretion of cerebro-spinal fluid.

PITYRIASIS FOLLICULORUM (DEMODEX).

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AND

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AYRES[1] has coined the term "*pityriasis folliculorum* (demodex)" for a condition of the skin which he considers a definite clinical entity. Since reading Ayres's article we have kept a keen look-out for patients with demodectic infections of the skin. As we have met with four undoubted cases of this dermatosis here in Australia we think it of interest to report them.

CASE I: The patient, Mrs. A., stated that she had always had what was considered to be a "good complexion," but that lately the skin of her face had become so altered that she could only hide the disfigurement by frequent applications of powder. On clearing the *débris* of powder from the skin with a spirit lotion we observed five blotches or areas of disfigurement of the skin.

At first sight it was difficult to determine the cause of these blotches; they resembled somewhat the lesions of *impetigo pityroides* which occur on the faces of many school children. However, there was not any definite scaling of the lesions and even with the curette it was difficult to obtain any scales for microscopical examination. Hydrogen peroxide was then applied to the lesions on cotton wool pledgets and the curette again applied. A small amount of *débris* was collected in the curette; this was transferred to a slide and potassium hydroxide was added.

Microscopical examination revealed large numbers of the *Demodex folliculorum*. Scrapings from all the lesions were

also found to contain large numbers of the demodices, but examination of scrapings of skin normal to the naked eye failed to reveal any demodices. The demodices detected were of the short bodied type, the cephalo-thorax and the abdomen being approximately the same size. No specimens of the long bodied type so often found in the skin of the human could be detected. Nor were any hexapod long bodied larvæ present.

The patient had a fine, clear skin, not at all the kerotic type of skin we have been accustomed to associate with the presence of the *Demodex folliculorum*.

CASE II: The patient, Mrs. B., gave a different history to the patient in Case I. She had noticed her dermatosis for five years and had consulted several medical practitioners concerning it. The lesion involved the whole of the chin and extended upwards to the cheek and downwards to the submental area. Of roughly oval shape, it measured fifteen centimetres long and ten centimetres wide. Previously made diagnoses had been "eczema" and seborrhœic dermatitis.

Reddish in colour, but not scaly, the lesion was very sharply demarcated from the normal areas. To us the appearance resembled a chronic streptococcal infection or a non-apparent catarrhal inflammation of the skin. In scrapings taken from the centre and edges after the application of potassium hydroxide solution large numbers of demodices were found by means of microscopical examination. These demodices were similar to the short bodied type described as found in Case I.

CASE III: The patient, Miss C., stated that for the past three years she had suffered from rough scaly patches forming on the skin of the face and the neck. The patches were disfiguring and at times were itchy. By examination little abnormality could be detected; however, on being given a mirror the patient was able to point out certain areas which she stated were at times readily noticeable. Scrapings from these areas were mounted in potassium hydroxide solution and examined microscopically. They were found to contain such large numbers of demodices as to suggest that they were pathogenic so far as these patches were concerned. In scrapings from the non-involved areas no demodices could be found.

CASE IV: The patient, Mr. G., had two scaly patches of circular shape about three centimetres in diameter, one on the anterior border of the helix of the right ear, the other on the right cheek just anterior to the lobe of the ear. Microscopical examination of scrapings mounted in potassium hydroxide solution revealed the presence of large numbers of demodices. After the application of sulphur ointment for a few days, the lesions appeared to have been cured and demodices could no longer be found in scrapings.

During the last five months in which we have discovered these four cases of *pityriasis folliculorum* (demodex) in our private practice, we have noted only one case of demodex impetigo (Whitfield). These demodectic infections are probably more common than is at present recognized. Our experience suggests that they occur in 0·5% of all cases of skin diseases in private practice.

Hirst states that the demodex has a mouth but not an anus, so that it is not necessary to study alimentation conditions in connexion with these parasites, as suggested by Ayres.[1] However, we agree that frequent washing of the face clears obstructive material from the mouth of the follicles and allows the more effective application of parasiticide materials, such as the sulphur ointment recommended by Whitfield.[2]

The question arises as to whether the demodex, living under certain conditions, provides itself with a cocoon. One occasionally sees these parasites emerging from cocoon-like bodies which, while being obviously constructed largely of epithelial cells, appear to fit parasites of different sizes and shapes so exactly that one cannot consider them as exfoliated tubular portions of the follicles.

An examination of the demodex obtained from the skin of pigs suffering from demodectic mange does not reveal the presence of any cocoon-like bodies. The pig demodex, however, possesses at the distal end of the abdomen a spike-like protrusion of such apparent sharpness as to suggest that it is used to dilate the mouths of the follicles of the dense skin of the pig.

Treatment.

A cleansing lotion should be used first. The following is a useful prescription.

℞.

Acidi borici	4·5 grammes.
Acidi salicylici	1·5 grammes.
Aquæ destillatæ	40·0 millilitres.
Spiritus vini rectificati ..	60·0 millilitres.

Fiat lotio. To be applied to the affected areas with a piece of cotton wool and well rubbed in night and morning.

This should be followed by a strong parasiticide ointment, such as provided by the following recipe.

℞.

Camphoræ	6·0 grammes.
Spiritus vini rectificati ..	*Quantum sufficientem.*
Paraffinum molle	25·0 grammes.
Unguentum hydrargyri ..	70·0 grammes.

Fiat unguentum. To be smeared over the affected areas night and morning after the lotion has been applied.

In one case in which the condition was resistant to treatment we employed the ultra-violet rays followed by fractional doses of X rays.

Summary.

Pityriasis folliculorum (demodex) is to be considered as a definite clinical entity. The demodex is the probable cause of the disease; it differs in type from the demodex found in cases of demodex impetigo. The condition has not been recognized in the past and is probably fairly common, although in the past five months we have not seen a case.

One of us (H.L.)[3] [4] [5] exhibited a moulage of demodectic dermatitis at the International Congress of Dermatology and Syphilology held at Rome in 1912.

Acknowledgements.

We wish to thank Mr. Clinton for the microphotographs he has taken for this article, and also Mr. Drabble, of Sydney, for specimens of the demodex of the dog and the pig.

References.

[1] Samuel Ayres, Junior: "Pityriasis Folliculorum (Demodex)," *Archives of Dermatology and Syphilology*, January, 1930, page 19.

[2] Arthur Whitfield: "Skin Diseases and Their Treatment," Second Edition, 1921, page 22.

[3] Herman Lawrence: "On a Skin Eruption Associated with the Presence of Great Numbers of Demodex Folliculorum," THE MEDICAL JOURNAL OF AUSTRALIA, December 30, 1916.

[4] Herman Lawrence: "The Pathogenicity of the Demodex (Owen) in the Human Being," THE MEDICAL JOURNAL OF AUSTRALIA, July 16, 1921.

[5] Herman Lawrence: "Further Observations upon the Pathogenicity of Demodex (Owen) in the Human Being and of other Parasites Producing Skin Diseases," THE MEDICAL JOURNAL OF AUSTRALIA, November 12, 1921.

A NOTE ON THE DIAGNOSIS OF AND BLOOD CHOLESTEROL CHANGES IN MAJOR CONVULSIVE EPILEPSY.[1]

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THERE are a few diseases which the physician is expected to diagnose from the debatable and often misdirected observations of lay spectators, or from impressions of an attack remaining with the patient himself. Such conditions as asthma, hay fever, migraine, urticaria, epilepsy and *angina pectoris* may at first leave no trace of their passage, whereby the impression gained from the history can be confirmed. True angina and most of the allergic diseases, however, are usually recognizable from an intelligent patient's description, but an immediate decision in favour of early epilepsy may be a most difficult one to make. The following remarks apply entirely to the commonest and most dramatic type of epilepsy, that is, the major convulsive form, to which the term *grand mal* has been always applied, and long before it was recognized that major motor epilepsy may equally well take the form of a sudden paralysis without any loss of consciousness, or that profound psychic effect or sensory changes may have an equal significance; the increasing grades of cerebral inhibition, varying from pyknolepsy to simple falling without clonus, also are excluded.

It is usually apparent whether or not the patient has struggled in a fit or "turn," and the diagnosis is narrowed to the causes of convulsive attacks in general. The following scheme is merely a series of practical suggestions as to how the most can be obtained from a distressed witness of an attack. The patient should be interrogated privately and separately from the witness.

Historical Evidence.

The Patient's Own Story.

General conversation with the patient for a short period is advisable in order to gain his confidence and to enable the examiner to form an impression of the temperament, memory, mentality and habits of the individual. The subject can be led to the present question by inquiries as to similar disability, kidney or allergic disease in relatives, close or distant, and as to any psychic or physical trauma sustained by the patient from previous illnesses or occupation, including head injuries. Any suspicion of birth trauma, encephalitis or venereal disease should, of course, be carefully set down. In the case of multiparous females inquiry should be made for any toxæmia of pregnancy or remission from fits during gestation, also the relation of the original time of onset to the recognized sexual epochs. Headache, dimness of vision and vomiting must invariably be inquired after and the customary questions asked relative to other disorders of the nervous and remaining bodily systems.

As regards the fit itself, the patient must be instructed not to answer these questions from the standpoint of an individual seizure, but to draw on his collective experience of them all. A commonly used request is to ask him to describe a typical "bad" attack as far as he can remember it, but a better practice is to ask the following questions:

(*a*) *The Day (or Night) of the Attack.*—Was he feeling well? Was he tired or worried? What was he doing at the time?

(*b*) *The Aura.*—Did he have any warning of any kind whatever, no matter how fleeting? What was the last thing he remembered before an attack?

(*c*) *After the Attack.*—What is the first thing remembered? Did he feel stiff and exhausted? Was his tongue sore or were his trousers soiled? Has he ever cut his forehead or occiput? Did he sleep for some time afterwards? Was he subsequently weak in any limb or limbs? If so, how long did this weakness remain? Has he ever awakened to find the bed wet and feeling thoroughly exhausted and confused?

An answer either way to any one of these questions cannot be taken as excluding idiopathic epilepsy. These attacks commonly come on during moments of mental inactivity or during periods of mental exhaustion; an attack frequently follows too quickly for an aura to be perceived. Relaxation of sphincters and tongue-biting are by no means the rule, but are frequently characteristic of odd attacks. Todd's paralysis clears up in a few days, and, if not, is good evidence in favour of organic disease.

Interrogation of a Reliable Witness.

A near relative, conversant with the whole history and mode of life of the patient and who has had the opportunity of observing several attacks, is the most desirable person to interrogate. Confirmation and perhaps additional light on the personal and family history, temperament and vices of the patient should be sought for. Any warning of a fit noted or recalled by an observer, such as irritability, euphoria, yawning *et cetera*, is helpful, though a preceding depression frequently heralds a functional outburst. A regular periodicity (serial epilepsy) is of considerable diagnostic value. As regards the attack itself, the following queries may all produce threads which help to complete the classical garment: Is it possible to anticipate an attack under a given set of circumstances? Is any immediate warning given? Is there any noise or cry? How and where does he fall? Does he hurt himself or others? What is the colour of his face and lips? In which direction are his head and eyes turned? Is he stiff or not? Do all the muscles twitch? Is there ever blood-stained froth at the mouth or wet garments? How does he react to interference by onlookers? How long do the turns last? What happens afterwards? Has he ever done anything

[1] Read at the first annual reunion of the Royal Prince Alfred Hospital Residents' and Ex-Residents' Association, October 7 to 11, 1930.

strange afterwards? Does he ever show signs of having had an attack while by himself or in dangerous surroundings, for example, in street traffic? Does he seem as intelligent as ever?

Since this type of epilepsy is often accompanied by the minor exteriorizations of the same disorder, inquiry should be made as to these, together with subsequent automatism, emotionalism *et cetera*.

Clinical Evidence in the Patient.

An unusually full and complete physical examination, especially of the nervous system, fundi, cardiovascular and renal systems, is absolutely essential. The fact that in the majority of cases nothing unusual is found indicates a closer search than ever, rather than any excuse for perfunctoriness. An accurate gauge must be made of the patient's mental age for future reference. Much can be learned from the general appearance and facies and some idea formed of the patient's self-control and the existence of any endocrine or other deficiency. Scars on the forehead or, more usually, the occiput from falls may be found. The tongue, though bitten, rarely shows much scarring. When present, scarring is to be found on the sides of the tongue near the molars.

Nocturnal epilepsy invariably takes the form of *grand mal* and should be the first thing thought of when an adult suddenly complains of enuresis or when he awakes feeling very confused, giddy and with an apparently causeless headache. An easily awakened relative should sleep in the same room in order to obviate any danger of suffocation by the pillows when the patient is in a prone position. Major chronic epilepsy in children must be distinguished from convulsive atacks due to tetany and rickets, uræmia or meningitis, or those associated with spastic diplegia. Hysterical convulsions are uncommon before puberty, unless the child has observed repeated attacks in another individual.

Differential Diagnosis.

The most popular modern view of epilepsy in any of its forms is that it is probably always a symptom of some form of endogenous intoxication resulting in cortical inhibition. The so-called "idiopathic" type under this hypothesis is really the expression of an obscure metabolic autointoxication, often with close relationships to the allergic state.

1. Common exogenous toxins, already known as capable of producing convulsions, are the products of renal failure, including water retention, and the ingestion of metals, alcohol and of absinthe. By clinical and laboratory tests these must be excluded in each case.

2. Organic diffuse or localized disease of the cerebrum or its coverings, especially when due to syphilis, is rarely left unconsidered. As the fits in such cases are frequently a late sign, the fundi form an invaluable criterion. With regard to previous trauma to the cortex, it must be remembered that only about 5% of war injuries of this character were followed by epilepsy. A fit beginning for the first time in an individual past the age of thirty is presumptive evidence of organic disease.

3. Excessive bradycardia, as in Stokes-Adams syndrome (so-called cardiac epilepsy), may be sometimes associated with asphyxial convulsions, but the slow pulse and electrocardiographic record, associated with pallor and preliminary giddiness serve to distinguish this and vagotonic syncopal attacks from true epilepsy.

4. Migraine in the rare motor form, unassociated with headache, is stated to simulate a paralytic convulsive epileptic attack.

6. Hysterical seizures: It is frequently a simple matter to decide at once for or against this diagnosis. The patient is temperamental, there is a definite excuse for an attack, which is violent, spectacular and often anticipated, given before an adequate audience and accompanied by much biting, kicking, screaming, but no self-injury or relaxation of sphincters. Its duration is more than two minutes, the maximum duration of true *grand mal*. There is missing the dramatic, ordered sequence of events seen in true epilepsy and the whole affair rapidly subsides in the face of inattention, whereas restraint redoubles its violence. A difficulty arises when the true epileptic attack is so slight as to be hardly noticeable and a period of emotionalism follows on immediately afterwards.

Laboratory and Therapeutic Aids to Diagnosis.

The Wassermann test of blood and, if possible, of the cerebro-spinal fluid should form a routine. A radiogram of the skull, or even an encephalogram, may rarely help. Examination of the cerebro-spinal fluid, such as determining the refractive index, chloride content, cytology and globulin content, may sometimes aid in excluding organic disease. Tests for renal efficiency and lead are often necessary. As a therapeutic test it is excessively rare for true *grand mal* to fail to react in some degree to moderate doses of bromide and "Luminal." In fact it is this true type of epilepsy where these remedies are of greatest value and almost specific. Recently attention has been concentrated on evaluation of the blood cholesterol by Robinson, Brain, Kay and others,[1] who describe a slight fall up to twenty milligrammes per hundred cubic centimetres in the total cholesterol level immediately preceding a fit. This is not regarded as having any ætiological connexion with the fit, but merely as a side issue from a widespread metabolic upheaval. While different observers argue about estimative techniques, they are all agreed that this fall does occur. It could scarcely form an aid in practical diagnosis.

Case Report.

The following case expresses the difficulty which may still exist even after the thorough interrogatory and clinical examination outlined, in deciding whether a given case is one of true *grand mal* or hysteria.

H.L.T., a female, aged twenty-one, was referred to the Out-Patients' Department, Royal Prince Alfred Hospital, for an opinion as to the advisability of inducing an artificial menopause by radium, X ray or oophorectomy

to control serial fits, which had occurred regularly on or about the menstrual period from the age of fourteen, when menstruation began; all the usual methods of treatment had failed to control them.

The girl herself was most anxious that this should be done. Her family history was free from any suggestion of epilepsy, allergic disorders, mental or venereal taint. There was no history of cranial trauma at her birth or during her life, which had been free from any serious illness. She had not been backward at school, but apparently did not participate in outdoor games and was of a retiring nature. During a pregnancy and lactation four years before, however, she had been completely free from seizures. The child, aged four, was in good health. The menstrual functions themselves were characterized by a rather profuse loss, lasting six days, every twenty-eight days, but she volunteered the information that she bled for an undue time after the slightest cut. She had no set occupation and her child was apparently cared for elsewhere. As regards the fit itself, its onset could apparently be confidently expected on the third or fourth day after menstruation began. She could remember only one- or two occasions when she did not have a fit. They had not occurred between periods. It usually began shortly after rising from bed, while preparing breakfast. Her father was usually the sole witness. There was no warning whatever, but she usually fell forwards and had hurt her forehead, and once had had a laceration of the neck which required sutures. She had never bitten her tongue or passed her urine. She felt confused and exhausted afterwards, and often slept for two to three hours. She has never had any local weakness. The attacks had no special relationship to any other circumstance or environment. She had been given many medicines and powders without relief.

It was not possible to interview the father, but in a telephone conversation he described her as falling suddenly, becoming blue and rigid, with blood-stained froth at the lips. Some jerking apparently occurred, lasting, according to his description, for ten minutes, after which she was able to get up and go to bed.

On examination the girl appeared thin, but healthy and strong. There were no signs of scarring on the forehead, tongue or neck, nor any suture marks. Beyond large and hypertrophied tonsils, there was no evidence of abnormality in any system, including the ductless glands, nor any injury or derangement of any kind. The gynæcologist reported the pelvic organs as normal. Her mental condition was slightly subnormal, as she was pessimistic of medical relief, facile, over-confidential and highly interested in her malady, being particularly anxious for the artificial menopause. As the fits seemed to be accurately periodic, it was felt to be a good opportunity for serial observations on the variations in her blood cholesterol before and after the attack. She readily consented to go into a hospital for a few days' observation at the commencement of the next menstrual period. The intermenstrual cholesterol level was determined on a low cholesterol diet and she entered hospital on the second day of the subsequent period, when blood was collected at hourly intervals from 8.30 a.m. on three successive days, the patient remaining in bed (see table). No fit occurred and she left hospital at the sixth day of the period. She returned to the out-patient department a week later and stated that she had had a fit that day, but appeared as bright as usual. The period had then been over four days. A similar train of events took place the following month, when she described a fit nine days after the first day of her period. She was then placed on a mixture containing sodium bromide, *nux vomica*, arsenic, belladonna and nitroglycerine with "Luminal" night and morning for four days before and during menstruation. Peterman's ketogenic diet was outlined for her, and her fluids were reduced to an absolute minimum. She was sent away to the country for a month. She has had one fit subsequently, about midway between two periods, after two weeks without medicine. In July no period or fit occurred. She feels well and is to have a tonsillectomy shortly.

Date.	Time.	Cholesterol.		Remarks.
		Whole Blood in Milligrammes per 100 Cubic Centimetres.	Plasma in Milligrammes per 100 Cubic Centimetres.	
27/2/30	4.30 p.m.	av. 136	147	Inter-menstrual phase.
28/2/30	4.30 p.m.	av. 126	—	Inter-menstrual phase.
3/3/30	4.30 p.m.	av. 32	—	
6/3/30	4.30 p.m.	av. 114	117	Menstruation begins.
7/3/30	8 a.m.	—	125	In hospital.
	9 a.m.	—	av. 128	
	11.45 a.m.	—	av. 125	
	4.30 p.m.	—	av. 137	
8/3/30	8.10 a.m.		av. 124	Fit expected, but not realized.
	9.10 a.m.	—	119	
	7.30 p.m.	—	131	
9/3/30	8.15 a.m.	—	136	
	9.15 a.m.	—	130	
	10 a.m.	—	134	
10/3/30	8.10 a.m.	125	131	
	9.15 a.m.	125	114	Fit two days later.
13/3/30	4.30 a.m.	—	138	

Comment on Case Report.

As is obvious, a diagnosis of *grand mal* was finally made and acted on. However, the following points were considered as lending some support to the theory of hysteria: (i) Her anxiety for sterilization, (ii) her failure to fit while in hospital, (iii) the apparent absence of scars or suture marks, (iv) her failure, according to her first medical attendant, to react to bromide or "Luminal," (v) her bright mental condition on the afternoon of an alleged fit, (vi) repeated failure of sphincters to relax in an attack, (vii) absence of marked mental deterioration.

All the features together, however, are not incontravertible evidence of hysteria, and are capable of other explanations. Thus, distraught with the anticipation of a regular monthly fit, sterilization may seem an easy outlet. The apprehension of being put to the test in hospital may provide the very factor to allay any chance of cerebral inhibition. Inquiry revealed that the bladder and rectum were usually empty at the time of the attack. A common relationship between epilepsy and menstruation is recognized as an alteration in emotional tone at this juncture. The father's description, coupled with the long history of fits since puberty, after-hypnosis, tongue-biting, amnesia, remission during pregnancy and lactation and ultimate response to medicinal measures makes the diagnosis irrefutable.

As regards the changes in blood cholesterol, the onset of menstruation is stated by some observers to lower and by others to raise its level and so complicates the question. Goodall[2] describes a premenstrual fall in cholesterol. If this is so, a relationship is established between menstrual epilepsy and the onset of the period. Reference to the figures obtained from this case show that the lowest reading obtained was on the day before menstruation began (111 milligrammes per hundred cubic centimetres of whole blood). The next lowest (114 milligrammes per hundred cubic centimetres of plasma) occurred two days before a fit. Whole blood cholesterol on this occasion, however, was 125 milligrammes *per*

centum and in the case described by Robinson and his collaborators, the critical fall did not occur until a very few hours before the paroxysm.

Conclusion.

More information is required as to the effect of all types of epilepsy and of menstruation on blood cholesterol in large series of cases. Moreover, a period of closer observation of patients such as this in hospital would be desirable, as enough has been done to indicate its value.

Acknowledgement.

I am grateful to Dr. Bolliger for the laboratory cholesterol analysis, which followed the method of Myers and Wardell.

References.

(1) S. H. G. Robinson, W. R. Brain and H. D. Kay: "The Association of Low Blood Cholesterol with the Occurrence of Fits in Epileptics," *The Lancet*, Volume II, 1927, page 325.

(2) E. Goodall: "Blood Cholesterol During the Menstrual and Epileptic Cycles," *The Lancet*, Volume I, 1929, page 384.

Reports of Cases.

SCURVY AND EXTREME FATTY DEGENERATION OF THE LIVER.

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THIS case seems worthy of note in the first place because extreme degrees of scurvy are not now frequent, even in children, and secondly because of the fatal issue and pathological conditions.

P.C., a male, aged seven months, was admitted to hospital on June 24, 1930, and died on July 10, 1930. He was the first born of his parents and there was no history of previous miscarriage. The child was breast fed until he was four months old; his progress had been normal. He was then fed on cow's milk; orange juice was given, but only at irregular intervals. He became drowsy, began to have convulsions, and latterly the fits became almost continuous. He seemed to "swallow his tongue." Four days before admission the left thigh became swollen, but according to the mother was not painful.

The child was undersized and apparently backward. His attention was difficult to attract and he resented examination of any kind, particularly that of the left thigh. He "snorted" at times, due, I think, to a hypotonic palate; his breathing was not of a "snuffling" type. The temperature was 36·8° C. (98·2° F.). He was peculiarly pale, but there was no sign nor history of hæmorrhage; there was one erupted incisor and there was no lesion on the alveolar margins. There was no enlargement of the spleen, lymph glands or liver. The blood did not react to the Wassermann or Kahn test. The left thigh had a bolster-like appearance; the femur seemed to be thrice its normal circumference. The radiologist reported a large ossifying subperiosteal hæmorrhage along the shaft of the left femur (Figure I). Four days after admission a similar swelling was noted on the right femur.

The indications afforded by the history were met by a diet which included potato, cream and orange juice, but which had to be given almost entirely by tube; only occasionally a teaspoonful was swallowed. This went on for sixteen days without any apparent change in the child's condition, when he suddenly vomited, collapsed and died.

At the *post mortem* examination the distinctive pathological changes were those of the type of infantile scurvy described by Sir Thomas Barlow and commonly called Barlow's disease. The baby was small, had cut one tooth, but had neither swollen, purple, nor spongy gums. There were numerous extradural hæmorrhages under the calvarium and minute hæmorrhages under the capsule of the kidneys, though none elsewhere, except in the femora. On both femora could be seen the classical periosteal hæmorrhages in a marked degree (Figure II). In the right femur the hæmorrhagic line was thin, but it existed along the whole shaft, being more conspicuous at the lower end. There was a partial separation of the upper epiphysis. In the left femur the damage was much more extensive; there was a wide fusiform swelling round the shaft, more than twice the width of the shaft itself. The cortex of the bone was thinner than natural, but there was a distinct line of bone of the normal shape in the normal position. The outer edge of the swelling was marked by a much thickened periosteum and the space between it and the bone was occupied by gelatinized, partly decolorized blood and fibrin, with, here and there, recent clot. Microscopically, apart from fresh hæmorrhage, the material was a mixture of marrow tissue, fibro-cellular areas, hyalinized clot and spicules of bone. In some places the tissue was practically poor, spongy bone; this was more or less continuous under the raised periosteum. It appeared that successive hæmorrhages had occurred in the vascular layer of the periosteum, disrupting it and distending it, leaving much of its cellular (formative) layer to multiply and continue to make bone in the organizing clot. The outer fibrous layer had become very much thickened in response to increased call for its protective function. The liver was found to be in a state of advanced fatty degeneration; there was loss of cell outlines and lobular definition. The renal epithelium also was degenerated and there was some fibroblastic infiltration.

The relationship of these conditions to the essentially scorbutic lesions is not clear. They may have resulted from defective metabolism and auto-intoxication in this malnourished child, but it is also likely that they contributed to the hæmorrhagic tendency and even may have originated it. However, whether they are consequential or causal is merely interesting speculation; we do not feel able to offer any decided opinion on the point.

DEATH UNDER ANÆSTHESIA: LESIONS IN THE MEDULLA AND POSSIBLE STATUS THYMICO-LYMPHATICUS.

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CLINICAL HISTORY AND POST MORTEM NOTES. (G. A. HARDWICKE.)

THE interest of this case lies chiefly in the fact that a condition suggesting *status thymico-lymphaticus* was found to be associated with definite lesions in the *medulla oblongata*.

A.D., an apparently healthy male child of five years, was given an ethyl chloride-ether sequence anæsthetic on May 19, 1930, prior to the proposed removal of tonsils and adenoids. A complete physical examination was made

following a statement by a parent that the child had suffered recently from a cold in the head. Immediately after the transference to ether respiration ceased, and efforts at resuscitation extending over two hours were unsuccessful. Heart sounds were audible for several minutes following cessation of respiration, but these were not heard again, excepting for a short interval at the end of one hour following the intracardiac injection of "Pituitrin."

Dr. W. S. Brooks extended an invitation to be present at the *post mortem* examination next day, when the lymphatic glands throughout the mesentery of the small intestine were found enlarged. The brain and medulla appeared healthy to the naked eye, but unfortunately only the medulla was preserved for further examination. The thymus weighed 25·7 grammes. Dr. Keith Inglis expressed the opinion that the mesenteric lymph glands and the thymus were abnormally large for a child of five years. MacCallum ("Text Book of Pathology") gives the average weight of the thymus from ages six to eleven years as 25 grammes. Shennan ("Post Mortems and Morbid Anatomy," 1927 edition, page 51) gives the normal weight as varying from 15 to 25 grammes, although he admits that Kaufman regards these weights as excessive.

The *medulla oblongata* was submitted to Dr. O. Latham, who very kindly furnished a report.

At the inquest a verdict was returned of death from *status thymico-lymphaticus*. I should like to acknowledge the willing help given by Dr. Inglis and Professor Welsh.

Microscopical Findings.

(Oliver Latham.)

A portion of the mid-brain extending from the first cervical segment to the upper end of the olive, mostly denuded of pia, which appeared to have been reflected from over the upper medulla on to the lower part, was received in 10% formal saline solution and appeared well fixed. Nothing abnormal was noted with the naked eye.

Frozen sections were made from the lower part of the medulla and also from the level of the middle of the olive and were stained by the following methods: (i) Hæmatoxylin and eosin, (ii) our modified Nissl's method for nerve cells, neuroglia cells and perivascular infiltrations *et cetera*, (iii) ripened neutral red for nerve cells, (iv) Cajal's axis-cylinder stain for formalin tissues, (v) Cajal-Ziehan's gold-sublimate method for neuroglia and the caudal sections by Weigert-Pal's method for mylein sheaths.

When it was found that no pia-arachnoid was included, paraffin sections were made from the lower part of the medulla and stained by hæmatoxylin-eosin for signs of mononuclear infiltration and vascular phenomena.

On microscopical examination there was at once noted a prominence of the vascular system, engorgement with definite perivascular exudation of red cells at least half a dozen times in each section and chiefly beneath the ventricle, at times in the positions occupied by the nuclei of the ninth and tenth cranial nerves and even deeper down nearer the *nucleus ambiguus*, besides ventrally nearer the olives. Further, most of the medium sized vessels showed toxic swelling with hyaline degeneration of the outer coats, the lesion progressing as the vessels decreased in size. Some of the larger vessels showed patches of abundant perivascular mononuclear infiltration, and typical "lines of nuclei" outlined the course of many of the capillaries.

The neurones as a whole were remarkably preserved and well stained; nevertheless, neuronphagia in parts was evident and in these areas could be seen the most extensive neuroglial proliferation—not only excessive fibres forming a feltwork, but small and large glia cells, many multinucleated with moderately thickened processes. A small amount of axonal degeneration of neurones obtained near the hæmorrhages. These lesions were most in evidence in the upper part of the medulla. All this seemed to point to that type of reaction called by Orr and Rows "lymphatic and reactive" as opposed to the type called by them "hæmatogenous" or primarily degenerative. By this we mean that the pathological picture denoted that type of reaction in the central nervous system caused by syphilis, the viruses of the several encephalitides and so on. On examining the paraffin sections for involvement of the pia-arachnoid we indeed found collections of small mononuclear cells, extravasated red cells, coagulated lymph or abnormal cerebro-spinal fluid, but there also obtruded itself on our notice atypical collections of blood vessels forming a cirsoid aneurysm. These vessels showed a hyaline swelling and degeneration of their outer coat, as well as a peculiar amorphous swelling of the internal elastic lamina to many times the normal thickness.

The presence of this diseased congenital structure raised a doubt as to whether it had a hand in the lesions enumerated on the medulla, since it is on record that parts of the body, such as the nose or finger, distal to or supplied by such cirsoid aneurysms show atrophy or defective development. The excellent condition of the majority of the neurones seems to negative this, as well as the fact that, save for the neuroglial reaction, most of the lesions were recent.

The neuroglial reaction appears to denote a lesion of probably some months' standing and according to one authority from the Italian school a chronic gliosis is the main condition found in cases of *encephalitis lethargica* followed to necropsy after a clinical history of several years—one case up to six years.

There is, therefore, microscopical evidence that there was a sclerosis in the medulla, where many of the blood vessels of all sizes were the seats of severe lesions, and that there was as well a cirsoid aneurysm in the path of the vascular supply to the part. To what extent the latter contributed to the death we do not feel prepared to discuss.

Reviews.

THE EUCALYPTS.

The first edition of Russell Grimwade's "Anthography of the Eucalypts" was published in 1920. It met with such success that a second edition has been issued and is now to hand.[1] This book is of the greatest value to the professional botanist and a source of unending pleasure to the amateur. The plates, from photographs, are admirable and many of them beautifully coloured. Altogether the work is a credit to the author and publishers. The pages of the text are not numbered, but the plates are numbered and each has a page of letterpress, so no confusion arises when the index is referred to. The Eucalypti were first noticed during Captain Cook's second voyage (from 1772 onwards) in Tasmania and were called *Aromadendron*. However, the first accurate description was from a specimen obtained in Tasmania in 1777 and the name eucalyptus was given by L'Héretier in 1788. The essential parts of the flower are covered by an operculum or lid, hence the generic name. The genus is confined to Australia, New Guinea and some of the Austral-Malayan islands. The species range over the whole continent, including the desert regions, and from the sea coast up to the top of Mount Kosciusko. In the early days of settlement they excited comment from the oblique setting of leaves of some species, so that comparatively little shade was made, and the bark was shed instead of the leaves. In size they vary from dwarfs to the mightiest monarchs of the vegetable world. *Eucalyptus regnans*, the white mountain ash, or blackbutt attains the height, in Gippsland, of 326 feet, and the karri, of Western Australia, more than 250 feet. The river red gum may attain a trunk diameter of fourteen feet. The blossoms of some are magnificent, such as the well known *Eucalyptus ficifolia*. But finest of all is the desert gum, with scarlet blooms five inches in diameter. Some of the species store up water in their roots—to be used by the aborigines and the experienced white settlers in times of drought. Economically, the species furnish timber of the most valuable kinds and, for medicinal purposes, eucalyptus oil.

[1] "An Anthography of the Eucalypts," by Russell Grimwade, B.Sc.; 1930. Australia: Angus and Robertson. Imperial 8vo., pp. 114, with 103 plates. Price: 42s. net.

The book gives many data concerning these oils and their eucalyptol content. The first Surgeon-General of Australia (John White) observed the similarity of the oil of the Sydney peppermint gum to the oil of *Mentha piperita* and its use in "colicky complaints." R. T. Baker and H. G. Smith, whose investigations on the eucalyptus oils were epoch-making, found that the composition of the oil and the type of venation of the leaves went hand in hand and they considered that species could be accurately determined from these features. The blue mallee yields up to 80% of eucalyptol (cineol). In addition to medicinal virtues some species yield oils containing constituents of the greatest value in perfumery. The oil of *Eucalyptus Macarthuri* contains geraniol identical with that of the geraniums and roses. The delightful lemon scented gum yields citronellal, which is the characteristic ingredient of oil of lemon peel. Another constituent of some species is piperitone, from which thymol and menthol can be made. Other species give tannin-containing kino exudations and much tannin occurs in the bark of various kinds. Sugary exudations called "manna" are found on other species. The yield of honey by others makes them of the highest value to apiarists. All these and countless other details of absorbing interest will be found in the book. In many parts of the world have our indigenous "gum trees" now been acclimatized, such as California, Algeria, the Mediterranean Coast, South Africa, England and elsewhere. Altogether about four hundred species have been described from Australia.

SEX.

THE book "Social Control of Sex Expression" shows great industry on the part of the author, Geoffrey May; the fact that there are eighteen pages of bibliography is confirmation of this statement.[1] The information which he has collected should be of value to historians and to those who study the subject of sex thoroughly and scientifically. The author refrains from generalizations and is content to describe rather than interpret. One exception to this statement occurs in the introduction when he indicates the conclusions drawn by him from the material which he presents in succeeding chapters. These paragraphs may be quoted in full:

> So long as the Church's doctrines of family organization were an integral part of the social fabric, so long were the repressive laws of sex successfully administered. As the Church's moral hold weakened, the Church's legal hold became more difficult. For a time the Crown gave its support through the High Commission. For a time the Puritans tried a system of their own. But for the greater part of the period of the past six hundred years the history of the control of sex expression in England and America has been the history of administrative failures.
>
> This study may make clear some of the specific reasons for this failure. More important, it may throw some light on the relation and non-relation of law and social restraint.

DERMATOLOGICAL TREATMENT.

THE third volume of the "Principles and Practice of Dermatology" is devoted to "The Treatment of Skin Diseases" in detail.[2]

Dr. Noxon Toomey has in some five hundred pages described the various methods of treatment of practically all the known skin diseases.

There are forty-three main chapters, in which has been grouped an arrangement of subheadings.

There are a few methods of treatment and the drugs used that could have been enlarged on, for instance, although gold-sodium-thiosulphate is mentioned in the pages dealing with *lupus erythematosus*, yet the specific drugs to use are not mentioned, nor are the various methods of giving it recorded. In the chapter dealing with psoriasis, however, the author describes his method of giving colloidal gold by mouth. The method of treating such a chronic disease as psoriasis by gold according to Dr. Toomey gives the best results. It cannot be held that this is the experience of many other dermatologists.

The author apparently prefers X rays rather than radium. Throughout the book he pays more attention to this method of radiation and in fact scarcely gives any mention of the method of using radium. To devote only two pages to the treatment of such an important disease as basal-celled epitheliomata seems extraordinary to us in Australia.

The many pages dealing with the treatment of syphilis contain excellent teaching and it is worthy of note that mercury is still claimed as one of the four chief drugs to be used, the author laying stress on the fact that practically all patients with syphilis should receive, besides the arsenicals, mercury or bismuth and potassium iodide. The dermatologist should not rely on one kind of drug alone to effect a cure.

The book is well printed with good type and will no doubt be useful to the specialist in dermatology. It is not suitable for the general practitioner, unless he can, of course, diagnose the condition to be treated, as the book is devoted entirely to treatment.

MENTALITY AND DISEASE.

IN the introduction to the book "The Unknown Self," by Georg Groddeck, M.D.,[1] there is an article quoted which was written in honour of his sixtieth birthday. It is of interest to requote from this source.

> When we who are members of the International Psychoanalytic Society think of Groddeck, our minds naturally turn to that day at the Hague Congress, when he mounted the platform to announce "I am a wild analyst." In so saying he was right, only we must not give that term its usual meaning as indicating the sort of person who, without any training, without even having grasped anything of the spirit of analysis, yet dares to treat mental disease. Groddeck may be permitted to style himself "wild"—in relation to the movement of which he is supporter—in the sense that he owes his training to no one but himself. He may also be termed "wild" in virtue of his passionate temperament, which impels him to action where others throw up a case as hopeless or disguise their real helplessness under the cover of "accurate diagnosis."

Those who read this review will probably agree with the word "wild" when they learn what is Groddeck's thesis. He insists that physical disease, such as an infection, occurs because the individual harbours a conscious or unconscious wish to escape from meeting the difficulties of ordinary life.

If he were to state that the mental attitude has some effect in raising or reducing resistance to infection he would find many to agree with him. Like many enthusiasts, he has carried a good thing too far.

If, however, the average physician were to pay more attention to psychological factors than he does today, his patients would be much benefited. That is the fact which comes to mind when considering such a claim as that made by Groddeck.

[1] "Social Control of Sex Expression," by Geoffrey May; 1930. London: George Allen and Unwin Limited. Demy 8vo., pp. 256. Price: 12s. 6d. net.

[2] "Principles and Practice of Dermatology, Volume III: The Treatment of Skin Disease in Detail," by Noxon Toomey, M.D., B.A., F.A.C.P.; 1930. Saint Louis: The Lister Medical Press. Royal 8vo., pp. 512.

[1] "The Unknown Self, a New Psychological Approach to the Problems of Life, with Special Reference to Disease," by Georg Groddeck, M.D.; 1930. London: The C. W. Daniel Company Crown 8vo., pp. 207. Price: 7s. 6d. net.

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MEDICINE AND THE MIND.

It has become a commonplace to speak of *mens sana in corpore sano* as though the health of the mind and of the body were dependent one on the other. To a large extent they are mutually dependent. Man is made up of mind and body and a man cannot be healthy if the function of either is not normal. The departure from normal in mind or body may be either temporary or permanent. All medical practitioners are familiar with the mentally defective child, on the one hand, whose body is apparently normal, and with the sufferer from permanent effects of bodily disease, on the other, whose mind is to all intents and purposes normal. It is interesting here to note that there are persons who hold that as far as genius is concerned, particularly in the literary sphere, the extraordinary mental quality on which creative power depends is the result of an impaired bodily condition or is associated with a degenerative tendency in other directions; and there is something to be said for this point of view. It is not sufficiently recognized that a temporary departure from normal in body often brings about an abnormal state of mind and *vice versa*. The view is frequently held that adjustment in one sphere brings about adjustment in the other. This one-sided attitude is not always justifiable. The psychiatrist and medical psychologist are not so much given to this singleness of aim as the physician and general practitioner or even the surgeon—it is undoubtedly true that the mental component of disease is often overlooked.

A man stricken by disease is an easy prey to suggestion. According to the magnitude of the mental component of the disease, so may the psychic power of the attendant, be he medical practitioner or faith healer, benefit the patient. The Right Honourable H. A. L. Fisher in his illuminating book "Our New Religion" has shown that amongst much that is fantastic and false in Christian Science there is a central core that is true. The mental healer, faith healer or spiritual healer, like the Christian Scientist, obtains his results, when disease is actually present, from this central core of truth, that "courage and faith are powerful auxiliaries in the battle for health." Unfortunately, healers of this sort regard courage and faith not as auxiliaries, but as the whole means of healing. Here, of course, lies the danger. If faith healers were to insist on adequate medical treatment as a preliminary to their rites, ceremonies and words, there would be no great need to fear for the safety of the patient—the instillation of courage and faith would reinforce these qualities, already brought into operation by the medical attendant. The way in which "persons who are not ordinarily regarded as cranks," to quote Fisher a second time, flock to the faith healer, enables us to make our second point, that the mental component of disease is worthy of study.

The third point is naturally summed up in the question as to how this study may be best encouraged. By attention to the mental aspect of disease is not meant the pandering to the desires of the patient who "enjoys bad health" year after year, in the manner of the supposedly medical author of a recent popular piece of fiction. Such are the methods of the unscrupulous and the money makers. The understanding of the mental component of disease is impossible without an antecedent understanding of the mind in health. Dr. C. A. Hogg, Director-General of the Insane in New South Wales, in a

paper read at a congress a year or two ago, made a strong appeal for the compulsory study of psychology by medical officers at mental hospitals, an appeal that could be applied with equal force to all medical practitioners. The question has been asked as to how this can be done. The suggestion which we would advance is that the post-graduate committees in the several States of the Commonwealth might consider the advisability of holding a course in psychology for medical practitioners. The response would be generous. Medical practitioners are as a rule too busy to attend lectures at a university during the daytime and perhaps diffident of taking their places beside junior students. Private reading will, of course, do a great deal, but personal tuition from a skilled lecturer is much more satisfactory. In any case, a start must be made at the bottom of the ladder. When the "matrix of the mind" is understood, the effects of disease on the mind may be studied with hopeful assurance.

Current Comment.

NEURO-SYPHILIS AND CARDIO-VASCULAR SYPHILIS.

IT has been asserted that the symptoms of cardio-vascular syphilis do not manifest themselves until about twenty years after the primary lesion, but clinical evidence may be elicited long prior to that time. Careful examination may disclose, even in the secondary stage, evidence of cardio-vascular damage and thorough treatment may prevent the onset of syphilitic aortitis and aortic valvular disease. Francis Bach and C. Worster-Drought have contributed an article on the interrelation of neuro-syphilis and cardiovascular syphilis from a study of fifty cases.[1] They state that evidence of syphilis of the cardio-vascular system has been found clinically in over 30% of cases of neuro-syphilis and in more than 50% has evidence been revealed at autopsy. Cardio-vascular syphilis is generally not recognized till the fifth decade of life, whereas neuro-syphilis is usually diagnosed in the fourth decade. During malarial treatment patients with paralytic dementia have died in the pyrexial period without having displayed any clinical sign of cardio-vascular disorder; in such cases autopsy has revealed aortitis and myocardial disease. The questions arise as to whether it is possible to detect cardio-vascular disease in neuro-syphilitics by special cardiological methods at a stage earlier than that of the definite appearance of physical signs, whether evidence is obtainable as to early signs of syphilitic aortitis, and whether such clinical methods reveal a greater incidence of cardio-vascular syphilis in neuro-syphilitics than has been generally believed.

Twenty-five neuro-syphilitics were examined for cardio-vascular disorder by clinical, orthodiagraphic and electrocardiographic methods, and the same number of patients suffering from cardiovascular syphilis were examined for nervous lesions. The neuro-syphilitic patients suffered from tabes, tabo-paresis or general paralysis; those with cardio-vascular syphilis had aortitis with aortic incompetence or aneurysm. Of the twenty-five neuro-syphilitics seven revealed cardio-vascular abnormality. A female with *tabes dorsalis* had an enlarged heart with an aortic diastolic murmur. Another female with tabo-paresis had cardiac enlargement with accentuated second aortic sound and on X ray examination a slight fullness of the aorta to the right. Others manifested arterio-sclerosis or atheroma of the aorta or fullness of the aortic shadow, cardiac enlargement or hypertension. Of the twenty-five patients with cardio-vascular syphilis four exhibited evidence of neuro-syphilis. All of these had Argyll-Robertson pupils. Two, in addition, had evidence of *tabes dorsalis*, loss of knee jerks and ankle jerks, with incoordination and impairment of deep sensation.

Of the early clinical signs of syphilitic aortitis the most significant are a basal aortic systolic murmur and accentuated aortic second sound. If a soft basal diastolic bruit appears, the diagnosis is confirmed. In the neuro-syphilitic patients no basal systolic murmur was heard and in only two was an accentuated second sound observed. In the cardio-vascular group twenty-three had a basal to-and-fro murmur; a basal systolic murmur with ringing aortic second sound was detected in two cases of aneurysm. The characteristic radiographic findings in syphilitic aortitis are slight enlargement of the heart to the left; increase of the aortic shadow to the right in its first part, particularly if the heart be not enlarged; and evidence of aneurysm or uniform dilatation of the aortic shadow. In only two of the neuro-syphilitic group did radiographic examination reveal the typical increase in the aortic shadow, while twenty of the cardio-vascular series displayed fullness of the first part of the aorta, suggestive of syphilitic aortitis; all the cardio-vascular group had cardiac enlargement. Four patients with neuro-syphilis manifested arterio-sclerosis and hypertension; in three of these there was slight cardiac enlargement and diffuse fullness of the aortic shadow. Even with modern instrumental methods of diagnosis relatively few (8%) neuro-syphilitics showed evidence of cardio-vascular syphilis; also comparatively few (16%) patients with cardio-vascular syphilis exhibited manifestations of neuro-syphilis. Bach and Worster-Drought observe that this finding is quite at variance with the figures from German clinics. With the electro-cardiograph low voltage curves were found in eight

[1] *The Lancet*, November 22, 1930.

cases of neuro-syphilis, but no definite abnormalities. Of the patients with cardio-vascular syphilis twenty exhibited abnormalities; prolongation of the intra-ventricular conduction time was noted in five cases. Such abnormalities as widening of the *Q R S* complex and flattening or inversion of the *T* wave, especially in the first lead, suggest syphilitic aortitis.

Neuro-syphilis is usually manifested at an earlier age (the fourth decade) than syphilitic aortitis (the fifth decade). In the series described in this paper the average age of the neuro-syphilitic group was 43 and in the cardio-vascular group 47 years. Stokes has observed that cardio-vascular syphilis is rarely diagnosed in the first decade following infection; in his series 45% were recognized in the second decade after infection. Subjective symptoms are not reliable as suggesting cardio-vascular syphilis. Neuro-syphilitics with aortitis do not often complain of symptoms directing attention to the cardio-vascular system. Patients with cardio-vascular syphilis may have no symptoms referable to the neurological condition, even when signs of neuro-syphilis are present. From pathological evidence collected by many observers it would appear that, whether clinical evidence be present or not, an average of 45% of patients with neuro-syphilis also suffer from cardio-vascular syphilis (aortitis). The investigations of observers in Germany and Austria suggest that 20% of sufferers from neuro-syphilis (with *tabes dorsalis* or exhibiting the Argyll-Robertson pupil) give clinical evidence of cardio-vascular syphilis (aortitis, aortic incompetence or aneurysm). The observations of Bach and Worster-Drought, on the other hand, suggest that, at the present time in England, clinical manifestations of cardio-vascular syphilis are less frequent in neuro-syphilitics than the above statistics would indicate. Their series of patients, however, was small, and it would be unwise to accept their figures as final. Even if signs of myocardial damage are found in a neuro-syphilitic, it has to be determined whether the damage is due to the syphilitic infection. In the large majority of cases it would probably be correct to hold the *Spirochæta pallida* responsible. The importance of considerations such as these before the use of malarial therapy need not be stressed.

INTRAVENOUS INJECTIONS.

REPORTS have from time to time been published of serious and sometimes fatal results following rapid intravenous injection of chemical solutions and other fluids. The way in which these effects are produced has not been clear and it is interesting to note that S. Hirshfeld, H. T. Hyman and J. J. Wanger have investigated the subject.[1] They refer to the condition by the descriptive name of "speed shock." They have used anæsthetized and unanæsthetized animals. For work without anæsthesia they used dogs and rabbits; with anæsthesia, dogs, cats, rabbits and monkeys. The fluids used included hypotonic, isotonic and hypertonic solutions of sodium chloride and other salts, sugars, colloids and gels, suspensions, drugs and biological fluids (blood and serum). "Speed shock" was obtained by rapidly introducing one or two cubic centimetres of the agent. Sometimes the reaction was fatal. If the animal recovered, a slow infusion of the same substance was introduced to eliminate the possibility that the reaction was specific or due to an impurity. Shock was then reinduced. In all animals, irrespective of the nature of the substance injected and irrespective of the type of experiment, the three investigators were able to elicit in whole or in part the clinical syndrome of speed shock. The symptoms included salivation, vomiting, diarrhœa, dyspnœa, muscle atony or muscle spasm. The circulatory and respiratory changes were the most pronounced; the fall in blood pressure was considerable. It was found easier to produce shock with hypertonic solutions, and a large molecule was more effective than a small one. It was found possible to produce repeated shocks with all the substances used except sodium bicarbonate and a calcium salt. The conclusion was formed that some constantly present factor was responsible. Non-specific contributing factors were eliminated. Thus, special idiosyncrasy, morphine, anæsthesia, pyrogenic substances in diluents, and the state of the circulation were eliminated. Bulk of fluid injected modified, but did not appreciably affect the reaction. Variations in temperature, production of protein split products and concentration were excluded as causes. That specific nature of the agents was not responsible was shown by the irregularity of results and the harmlessness of slow injections.

Hirshfeld and his collaborators endeavoured to localize the site of the speed shock. The possibility of a disturbance of the hydrogen ion concentration or of the anions or cations of the blood was eliminated on the advice of Loeb on account of the speed with which the reaction occurs; the justification for this may be questioned. The intervention of the vagal system was excluded experimentally and cardiac collapse was excluded. It was decided by hepatic exclusion experiments that a functional liver damage was responsible—the velocity reaction was not obtained in animals whose liver was excluded. The final conclusion is that the damage to the liver cell comes from a physical cause—"a rapid collision of molecules irrespective of their configuration or chemistry." Some toxic substance is formed and Hirshfeld and his fellow workers state that they cannot decide whether this substance is histamine. The observations made justify the conclusions. From the clinical point of view it is important to note that a slow intravenous drip permitted the introduction of huge quantities of fluid and many different agents; even toxic products were introduced with impunity, especially if the injection was interrupted. Observations such as those discussed have a practical bearing on "speed shock," anaphylaxis and similar phenomena.

[1] *Archives of Internal Medicine*, February, 1931.

Abstracts from Current Medical Literature.

MEDICINE.

Pneumothorax.

EMILE SERGENT AND JEAN PIGNOT (*Revue de la Tuberculose*, May, 1930) discuss the ætiology of those forms of pneumothorax which occur during simple exercise, after violent effort or as a result of trauma to the chest wall. In their experience this type occurs almost invariably in young people who are apparently in good health. The classical theory that the cause is the rupture of a vesicle from emphysema they dismiss, both because of the age of the patient and because a pneumothorax from emphysema would be possible only in the presence of pleural adhesions; otherwise subcutaneous and mediastinal emphysema would result and not pneumothorax. In their opinion the cause is a latent cicatricial subpleural tuberculous lesion and with this is associated pleural adhesion. A sudden effort tears this adhesion together with the scar tissue, allowing air to enter the pleura; this explains the constant pain and distress experienced in this class, as opposed to the frequent silent pneumothorax of the patient with active caseating tuberculosis. Further, the anatomical character of the site of the lesion insures the rapid closure, by the contraction of scar tissue, of the rupture, and explains why this patient rapidly recovers without any pleural exudate. Nevertheless, these patients are liable to recurrent pneumothorax, and many of them eventually develop active tuberculosis. The authors regard this accidental pneumothorax as fortunate for the patient and comparable to an initial hæmoptysis. It is evidence of an unsuspected tuberculous lesion of the lung. For this reason, unless suffocative symptoms appear, the pneumothorax should be maintained artificially as a therapeutic measure.

Hypertension.

G. E. BROWN (*Annals of Clinical Medicine*, June, 1930) describes the daily and monthly rhythm which occurred over a period of three years in the blood pressure of a man affected with hypertension. The patient took his own blood pressure at intervals during each day. The pressure was lower in the summer. During three months, when he went to bed at 9.30 p.m. and rose at 8 a.m., the blood pressure was considerably lower than at other times, when he retired later and rose at 6.30 a.m. At week-ends, owing to influences of emotion and excitement, the blood pressure usually rose to a higher level than during the week, when he was at work as a steam fitter. Restriction of protein and salt in the diet had no definite effect on blood pressure, nor did phenobarbital in a dose of 0·045 gramme (three-quarters of a grain) twice or thrice daily. Potassium sulphocyanate in a dose of 0·03 gramme (half a grain thrice daily) appeared to lower the blood pressure, when administered for some weeks or months. Hot weather, adequate sleep and avoidance of emotion or excitement all favourably affect hypertension.

Studies After Gastrectomy.

W. WALTERS (*Journal of the American Medical Association*, July 12, 1930) reports some physiological and chemical studies following successful total gastrectomy for carcinoma. A man, aged forty-eight years, had his whole stomach removed at operation; three weeks later and again at the end of four months the blood was examined. It was found that there was no appreciable change in the number of erythrocytes, in the content of hæmoglobin, in the carbon dioxide combining power or in the concentration of blood chlorides or urea. Examinations of the urine revealed no definite evidence of an alkaline tide in the morning urine. The moderate anæmia which was noted before operation, was unchanged four months later.

Malignant Disease of the Lungs and Pleuræ.

S. ROODHOUSE GLOYNE (*Tubercle*, November, 1930) discusses the morbid anatomy of malignant disease of the lungs and pleuræ. The greater part of the increase in the number of intrathoracic tumours now observed *post mortem*, he points out, is found in the pulmonary group. In the bronchi malignant disease may be found as a single nodule growth, starting from a mucous gland, or there may be a diffuse bronchial carcinomatosis, very closely resembling miliary tuberculosis. Though he divides neoplasm of the lung into five varieties, he admits the probability that they may all have had a bronchial origin. His types are: (i) Lower lobe growths, with sharply defined edges, slow growth and complete consolidation of the lobe; (ii) upper lobe growths, which are similar, but have a tendency to break down and form cavities, and to infect the tracheo-bronchial glands; (ii) whole lung growths, in which interlobar fissures and bronchi are obliterated and there is pressure on the pulmonary vessels; (iv) multiple nodules in the lung, which may be the early stage of a massive growth and which may be confused with actinomycosis or lymphadenoma (careful search is required here to exclude an occult primary growth); (v) a sclerotic type, which is rare, a massive fibrotic type of malignant growth in which the lung retracts against the mediastinum. Primary malignant growths of the pleura are rare; there are two main types: (i) A general infiltration and thickening of the pleura, (ii) endothelioma. In all forms effusion is common. The author warns against the likelihood of failure to observe neoplasm in the presence of pulmonary suppuration; he advises histological examination of the sputum from all bronchiectatic lungs and asserts that the combination of new growth and tuberculosis in the same lung is commoner than is supposed. Though the regional lymphatic glands are affected in the majority of instances, the disease is usually not far advanced and often there is very little glandular enlargement. Extension of the growth to the heart is an important complication, either along the *superior vena cava* to the right auricle or by invasion of the mediastinal glands around the roots of the great vessels. No organ is immune from metastases, though the osseous system is most commonly involved. Deposits in the brain, thyreoid and skin, though less common, are likely to give rise to confusion and may cause the primary site of the disease to be overlooked.

The Spastic Colon.

H. GAUSS (*Annals of Clinical Medicine*, May, 1930) discusses the spastic colon, a disorder which occurs in persons of a neurotic temperament as a rule. The symptoms are constipation, small, hard stools, "abdominal consciousness," introspection and pain which may occur in any part of the abdomen, simulating peptic ulcer, appendiceal colic or gall bladder colic. Mucus is frequently passed by the rectum and the condition is then very similar to mucous colitis. Flatulence and abdominal distension are complained of. Indigestion, fatigue, loss of weight, depression, nausea and insomnia occur. Examination reveals an emotional person, rather ill-nourished, often with a coated tongue and foul breath. The pelvic colon is palpable and tender, the caecum may be dilated. X ray examination reveals a narrow spastic colon, especially in its distal portion, the haustral markings may be absent; a very narrow "shoe string" appearance of the colon may be observed. Treatment consists in rest in bed for one week or more. A diet free from residue is given, such as milk, milk foods, eggs and fish at first; later an ordinary diet is gradually resumed. Belladonna and bromides are given by mouth and thirty cubic centimetres of mineral oil *per diem*. A retention enema of 60 to 120 cubic centimetres of oil is given each evening, to be retained overnight if possible. After three weeks moderate exercise is advised. The enemata are continued and treatment is directed towards the nervous element if necessary. For the pain, hot applications to the abdomen are indicated.

Chronic Arthritis.

R. B. OSGOOD (*Journal of the American Medical Association*, October 4, 1930) discusses orthopædic problems in the treatment of chronic arthritis and emphasizes the need for earlier recognition of the prodromal stage for earlier attempts to prevent deformity and for more intelligent treatment of the condition based on present patho-

logical knowledge. He endorses the view of Pemberton that in the early stages there seems to be a deficient blood supply to arthritic joints and the whole object of early treatment is to improve blood supply. Fixation of joints during the painful stage, protection from undue strain and the early resumption of active movements are important mechanical considerations. A sensitive inflamed joint should always be protected by apparatus and there is no danger of ankylosis during the stage in which this protection is necessary, but active movements should be resumed as early as possible. He expresses the view that there is no specific drug or vaccine for arthritis, but thinks the correction of actual endocrine deficiencies sometimes strikingly relieves arthritic symptoms. Surgical operation has a rather narrow field in the treatment of chronic arthritis and less is to be expected from it while the disease is active. Division of adhesions and contracture of muscles and reconstruction of ankylosed joints and arthrodesis to stop pain are the main contributions of surgery to the relief of chronic arthritis, but in general they are necessary only when the patient's medical adviser has not been sufficiently alert or when the patient has sought advice too late.

Addison's Disease.

J. M. ROGOFF (*The Canadian Medical Association Journal*, January, 1931) presents a new conception of Addison's disease. After referring to the historical aspect of the subject, he details his personal observations. He shows that it is possible to suppress completely the secretion from the adrenal medulla (epinephrin) in animals without causing any detectable harmful influence. A small portion of the cortex remaining in connexion with its circulation will suffice to sustain life indefinitely and to maintain the animal in good health, but removal of this cortical fragment will result in death. It is established by convincing evidence that the cortex (interrenal tissue) is the indispensable portion of the adrenal gland. The administration of an extract of the cortical tissue of the adrenal gland, termed by the author "Interrenalin," will compensate for the loss of the gland. The diagnosis of Addison's disease is discussed. Diagnosis has generally depended upon the existence of cutaneous pigmentation together with muscular asthenia, low blood pressure and sometimes gastric disturbances as described by Addison. The author stresses the fact that this combination of symptoms must be regarded as evidence of well advanced disease of the glands. Contrary to Addison's suggestion, he considers that the disease occurs much more frequently before than after the middle period of life and not in individuals of a large and bulky frame. He draws attention to two other symptoms of importance, namely, aversion to fatty food and the occurrence of a dull ache upon pressure in the costo-lumbar angle. The author concludes that Addison's disease is the manifestation of a severe intoxication resulting from loss of adrenal cortical or interrenal gland function. The treatment adopted consisted in the administration by mouth of "Interrenalin," an extract of the interrenal tissue or cortical portion of sheep or beef adrenals, and the intravenous injection of Ringer's solution to which is usually added about 2% to 6% of dextrose. The results have been encouraging.

Gastro-Duodenal Hæmorrhages.

M. CHIRAY AND P. AMY (*La Presse Médicale*, July 9, 1930) discuss some little known gastro-duodenal hæmorrhages. Hæmatemesis or melæna is usually attributed to ulcer or cancer of the gastro-intestinal tract, cirrhosis of the liver, heart failure, hæmophilia or some hæmorrhagic state in infectious diseases. Toxic appendicitis can cause black vomit, due to ulcerative gastritis. Arsenic and phosphorus poisoning, uræmia, oxalæmia and chronic plumbism sometimes cause hæmorrhage due to liver damage or peptic ulcer. Splenomegaly, either primary or associated with malaria, tuberculosis, bilharzia and Banti's disease, is commonly associated with hæmatemesis or melæna, as is portal thrombosis. It has been shown experimentally that the pyloro-duodenal region becomes congested in response to various forms of irritation in the digestive tract below, and also as a result of nervous influences in cerebral hæmorrhage, compression of the vagus by tracheo-bronchial glands, mediastinal tumours, radiculitis and in tabetic crises. Gall stones may cause hæmatemesis reflexly by causing duodenal congestion and infection in the right iliac fossa may have the same effect. Perigastric or periduodenal adhesions are frequently associated with vomiting of blood or melæna; such adhesions often follow the operation of appendicectomy, especially when no gross lesion of the appendix has been found. Two cases are quoted in which hæmatemesis occurred in association with dilatation and stasis of the colon; other causes of hæmatemesis were excluded. In one case recovery followed prolonged medical treatment by colonic lavage and general supporting treatment.

Low Basal Metabolism Without Myxœdema.

F. M. THURMON AND W. O. THOMPSON (*Archives of Internal Medicine*, November, 1930) discuss the question of low basal metabolism. An analysis is made of a series of 196 patients. In 58 of these the basal metabolic rate was below −20%. The 196 patients were classified into normal (11 patients) and abnormal (185 patients) groups. The abnormal group was divided into four subgroups. The first subgroup comprised those who were nervous, worried, easily fatigued and sensitive to cold, who had often diminished catamenia and probably suffered from some endocrine disturbance. There were 79 patients in this subgroup. In the second subgroup (21 patients) the outstanding abnormality was irregularity of menstruation, always scantiness or temporary amenorrhœa or both. The third subgroup (13 patients) comprised those who probably had mild hypothyreoidism, but who had no detectable œdema. The patients in this subgroup differed from those of the preceding two subgroups in that there was a noticeable amelioration of symptoms following the restoration of the basal metabolic rate to normal by the administration of desiccated thyreoid substance. The fourth subgroup comprised the remaining 72 patients. They were suffering from various conditions associated with lowered basal metabolism, such as starvation, pituitary tumour, muscular atrophy and colloid goitre. The authors stress the necessity of performing all determinations of the basal metabolic rate under the same conditions. They note that a search for persons suffering from hypothyreoidism too mild to be classified as myxœdematous was not as fruitful as might be expected. As mentioned, there were only thirteen such persons. A very large proportion of these patients with lowered basal metabolism were abnormal, but the authors show that it is very difficult to find out exactly what is wrong with them. The hope is expressed that the administration of therapeutically active preparations of various glands of internal secretion may throw light on the subject. The authors state that it appears strange that the thyreoid is the only gland of internal secretion that affects the consumption of oxygen. The question of the influence of muscle tone on metabolism is raised. Low basal metabolic rate is frequently found in patients suffering from colloid goitre and non-toxic adenomatous goitre, but no evidence of underfunction of the thyreoid gland can be demonstrated. In conclusion, the authors state that if the basal metabolic rate is lower than −25% an underfunction of the thyreoid gland is usually present, but that if the depression is less than 21% below the average normal, an underfunction of the thyreoid is usually not present.

Treatment of Bronchial Asthma.

H. PETOW AND E. WITTKOWER (*Klinische Wochenschrift*, September 13, 1930) have summarized their results in the treatment of bronchial asthma in 300 cases after carrying out tests with various substances. They consider that in the majority of cases skin tests with feathers from mattresses, also of house dust and pollen extracts, are most important. The more elaborate tests for other substances are more for the specialist than the general practitioner. Such services should always be evoked in resistant cases. When no specific substance can be found, good results follow non-specific desensitization with tuberculin and peptone; 50% of such patients are cured.

Special Articles on Diagnosis.

(Contributed by Request.)

XLIII.

TUBERCULOUS DISEASES OF THE SKIN.

TUBERCULOSIS CUTIS, as the name suggests, includes many diseases other than *lupus vulgaris* which are due to the presence of Koch's bacillus, although it is doubtful if the bacillus is actually present in some of the tuberculides. Yet the newer methods of demonstrating the presence of Koch's bacillus have modified previously expressed opinions upon this matter. In many ways remarks in connexion with *lupus vulgaris* are to a certain extent applicable to tuberculides, scrofuloderma and other forms of skin affection which come under the heading of *tuberculosis cutis*.

Darier[1] writes:

> The only two methods of diagnosis of positive value are the presence of the tubercle bacilli in the formation and the reproduction of the disease by inoculation in animals. (Guinea-pigs for preference.)

There are other important methods adopted for the diagnosis of *lupus vulgaris*.

The histological structure shows the presence of giant cells and epithelioid cells. The new growth is made up of numbers of tubercles occupying the whole thickness of the derma.

Positive reaction to Koch's tuberculin A is a very useful and simple method of diagnosis.

Von Pirquet's test may be of help, and also Moro's method, which is scarification of the suspected lesion and then rubbing into it an ointment composed of lanoline containing tuberculin. An acute local reaction of the tissues will follow if the lesion is tuberculous. The clinical course of the disease, especially chronicity, age of patient, are all to be considered in the diagnosis of cases not self-evident.

The application of a concave-convex glass (dermascope) by pressing with the convex surface upon the lesion until the redness of the lesion is pressed out of it and a brownish yellow (apple jelly-like) appearance becomes evident, indicates the presence of tuberculous nodules. One should be careful in applying this vitro pressure test, as a freckle, thickened crust or other blemish of the skin may lead to the production of appearances similar to what has been described as indicating tuberculous nodules.

Tuberculous diseases of the skin are, comparatively speaking, very uncommon in Australia, that is, compared with what are seen in the British Isles and some European countries.

In 23,000 patients attending my private clinic since 1908 there have been only 32 cases of *lupus vulgaris*. Crocker,[2] of London, in 15,000 cases found 127 of *lupus vulgaris*. McCall Anderson,[3] of Glasgow, in 10,000 cases gives 198 cases of *lupus vulgaris*. When I was acting as clinical assistant in the skin department of the Royal Infirmary, Edinburgh, in 1888, there were so many of these tuberculous diseases of the skin that one acquired a *coup d'oeil* method of diagnosis. A small piece of wood was used to prick into the nodules; and the ready breaking up of the soft tuberculous nodules was considered a diagnostic point in these conditions.

Pollitzer,[4] of New York, remarks:

> All forms of *lupus vulgaris*, and especially the highly destructive forms, are rare in America as compared with their frequency in European clinics. The high daily average of sunlight throughout North America may possibly play a rôle in this relative freedom, but on the other hand lupus is common in sunny Italy. It seems more probable in view of the fact that *lupus vulgaris* is predominantly a disease of the poor, that the better nourishment of the poorer classes in America is the most important factor.

The incidence of *lupus vulgaris* in Australia is very similar to that above described by Pollitzer for America, and the poorer classes here, as in America, are, comparatively speaking, well nourished, I hold that it is largely due to climatic conditions, the low humidity of the atmosphere and much sunshine that *lupus vulgaris* is so rare in Australia.

I have seen patients who have arrived from great Britain with extensive patches of *lupus vulgaris*, who will tell one that their skin trouble has been resistant to all forms of therapy on the other side of the world, yet the condition has quickly improved under treatment in this country, especially if they lead an out of door life.

The climatic conditions (low humidity and much sunshine)[5] [6] I have held are causative of the great prevalence of skin cancer (epithelial triad) in this country.

Conversely, I regard these climatic factors to be inhibitory to the development of tuberculous lesions of the skin in Australia. The accompanying table is of interest in this connexion.

City.	Relative Humidity.	Mean Annual Hours of Sunshine.	*Lupus Vulgaris.*	Epitheliomatous Growths of the Skin.
London ..	80	1,600	Common	Rare (compared with Australia).
Glasgow ..	85	1,200	Common	Rare
Adelaide ..	50	2,500	Rare	Common
Melbourne ..	65	2,250	Rare	Common
Rome ..	70	2,394	Common	Rare
Florence ..	60	2,000	Common	Rare
Denver ..	48	3,100	Rare	Common
St. Louis ..	68	2,800	Rare	Common

I wish to thank Mr. Hunt, Commonwealth Meteorologist, for supplying me with the above records regarding relative humidity and hours of sunshine. One must remember that the degree of humidity lessens and the hours of sunshine increase as one goes inland in Australia.

Italy has much sunshine and some parts of the country have a relatively low humidity, but one must remember that the Italians have a considerable amount of pigmentation of the skin which protects their skins from the effects of the solar rays (ultra-violet rays). Italians working in the open in Australia are not prone to develop epitheliomatous changes in the skin.

"*La formule leucocytaire de lupus vulgaire*," Meineri, is reported by Belgodere.[8]

Meineri states that the blood circulating in a *lupus vulgaris* lesion differs from the blood circulating in the healthy skin of the same person in that there is a diminution of the eosinophiles and the neutrophiles in the *lupus vulgaris* area with an increase in the lymphocytes. Thus this alteration in the leucocytic formula may be used as a diagnostic sign in *lupus vulgaris*.

The blood for examination is obtained from the *lupus vulgaris* patch and also from an area of healthy skin at some distance from the diseased area by scarification.

Meineri,[9] reported by Belgodere,[10] has previously shown that "*le sang de la peau avec dermographisme rouge, a un rapport leucocytaire beaucoup plus riche en polynucléaires, neutrophiles que celui de la peau avec dermagraphisme blanc ou prédominant au contraire les lymphocytes.*"

The application of a suitable pressor on the skin is followed normally by red lines. The blood taken from these lines gives the normal leucocytic formula. In abnormal cases white lines are produced by a pressor and the blood from these lines shows an increase in the lymphocytes and a relative decrease in the polynuclear neutrophile cells.

Dermometropathism,[11] [12] that is, the diagnosis of disease by observing the character of the markings that result from the pressure on the skin of some blunt instrument, as applied to skin affections, shows that the white line, "*dermographisme blanc*," produced by the pressor can be made use of in the diagnosis and prognosis of certain skin affections. By combining Meineri's method of blood examination (*la formule leucocytaire*) in con-

nexion with the results obtained by dermometropathism, one should obtain considerable help in the diagnosis of *lupus vulgaris* as well as many other skin affections.

My reason for giving so much attention to the rarity of tuberculous disease of the skin in Australia is on account of the tendency of the general practitioner, when puzzled with some chronic inflammatory condition of the skin, to fall back upon tuberculosis as the probable cause of the trouble.

Lupus Vulgaris and Lupus Erythematosus.

The differential diagnosis of *lupus vulgaris* and *lupus erythematosus* has received a tremendous lot of attention in dermatological text books. It is, of course, unfortunate that the term lupus was used with reference to *lupus erythematosus*. Unna has suggested the term *ulerythema centrifugum* for the *erythematosus* condition; it is an awkward name, but very apt from a pathological point of view, and I think it is a pity that dermatologists do not accept this name.

Whether this disease is in any way connected with the tubercle bacillus or not, I look upon *ulerythema centrifugum* as having a distinct clinical entity and a disease of much importance in Australia.

Pollitzer[13] states that "in American dermatological practice it occurs about once in 300 cases of all skin diseases." In Australia my experience gives about 2·5 in 300 cases of all skin diseases, there being 198 cases in 23,000 consecutive cases of skin diseases occurring in my private clinic since 1908. It is important to remember that in either of these diseases, when they are of long standing, the patient being elderly, an epitheliomatous growth may develop in the lesion, not only complicating the diagnosis, but calling for immediate treatment for the more serious trouble. I have had experience of several cases of both diseases in which malignant growths developed. It is not right to blame for the development of these malignant formations the newer forms of therapy such as radium and X rays, as they occurred in cases before these methods of treatment were introduced. But the possibility of this unfortunate change arising shows the importance of treating these conditions, which are sometimes so rebellious to treatment.

The success which is being obtained in the treatment of *ulerythema centrifugum* by the intravenous injection of various gold preparations will render this disease altogether more manageable. The result of this treatment is a diagnostic factor in distinguishing it from *lupus vulgaris*, as the gold preparations are not successful in the cure of that disease.

The redness of *ulerythema centrifugum* fades under pressure with concave-convex glass (vitropressure); there is no apple jelly appearance as seen when the tuberculous nodules of *lupus vulgaris* are pressed upon.

Punctate cornification, the formation of horny processes which dip down into the follicles, is characteristic of the *erythematosus* trouble and shows its development in the upper part of the skin as compared with the lesions of *lupus vulgaris* which begin in the dermis proper. If an adherent scale is present and it is carefully removed, these tags can be distinctly seen on its under surface. The cicatricial tissue which appears in long standing lesions, is of a thin papery appearance evidencing the superficial position of the chronic inflammatory process in *ulerythema centrifugum* as compared with the thickened scar formation, evidencing the destruction of the whole thickness of the skin by the tuberculous process in *lupus vulgaris*.

Lupus vulgaris occurs frequently in early childhood, but ulerythema generally does not appear until adult life. In difficult cases the tuberculin test can be adopted or a biopsy will show the difference in anatomical structure, the chronic inflammatory nature of the ulerythema as distinguished from the true tuberculous formations of *lupus vulgaris*.

Chronic Ulcers of the Skin.

Chronic ulcerative conditions of the skin are also lesions in which, if the diagnosis is difficult, the general practitioner is ever ready to suspect tuberculosis, and yet how seldom does that diagnosis prove to be the correct solution of the problem! In long standing, slowly spreading ulcerative conditions of skin with some scar formation, more or less painless, and in which the exudation and discharge from the ulcer are small in amount, especially if there is any indication of rolled edge or border at the distal parts of the lesion, then rodent ulcer should be expected; and, if necessary, a biopsy will show the basal-celled nature of the growth and will determine the diagnosis. When such lesions occur on the face, more particularly the forehead or even on the sides of the neck, there should be a strong suspicion of the epitheliomatous nature of the lesion. However, the presence of such lesions upon the trunk or the limbs renders the diagnosis from a clinical point of view not so certain. Bowen's disease, which is of an epitheliomatous nature, of rare occurrence, and affecting distant parts of the body, is also sometimes suspected of being a tuberculous lesion. But it does not react to tuberculin and a biopsy shows the epitheliomatous nature of the condition.

Of course, in these ulcerative conditions of the skin one must always bear in mind the possibility of syphilis, especially nodulo-ulcerative tertiary lesions. Here again it may be necessary to resort to the microscope, but generally there is some history obtainable as to the primary infection in years gone by. In women it may only be a history of miscarriages or a still-born child, no history of a secondary eruption or other cutaneous sign of the disease being obtainable. The Wassermann test is, of course, available and even if no reaction is obtained, a trial of antisyphilitic remedies should be made. The rate of destruction of the skin, if the lesion is of syphilitic origin, is generally altogether greater than that seen in chronic tuberculous or rodent ulcer. There is a greater destruction of tissue in a few weeks or months in syphilis than would occur in either *lupus vulgaris* or in many rodent ulcers in as many years. The thin tissue paper-like scar tissue occurring in ulcerating syphilitic lesions which easily folds up on pressure, is diagnostic of syphilis as compared with the thickened scar formation following tuberculous ulceration, and a recurrence of nodules in the scar formation is suggestive of tuberculous disease.

Scrofuloderma.

Scrofuloderma often begins as brownish indurations of the skin, usually secondary to some more deeply placed tuberculous process, especially tuberculous glands. The skin lesions break down with the formation of ulcers and fistulous openings connecting with the subcutaneous tuberculous condition. The diagnosis of this condition, especially if situated on the neck, is obvious, but in case of doubt some of the broken-down tissue inoculated into a guinea-pig will produce tuberculosis in the animal if the source is tuberculous.

In scrofulous ulcerations of the skin there is a varying amount of discharge; edges of the ulcer somewhat thickened and undermined are due to the breaking down of scrofulous gummata. These gummata are indurated masses of tuberculous tissue. These conditions must not be mistaken for syphilitic ulcerations. Wassermann and tuberculin tests should be applied if necessary. In syphilitic conditions there is generally some other evidence of the disease, past or present.

Bazin's Disease (Erythema Induratum).

Bazin's disease or *erythema induratum* consists of erythematous swellings usually occurring in young women on the outer sides of the legs. Ulcers may form which are irregular in shape and sometimes more or less painful. The whole condition improves with rest in bed. Its tuberculous nature is sometimes shown by the presence of other recognizable tuberculous lesions.

Tuberculous Lymphangitis.

Tuberculous lymphangitis, usually of the extremities, may develop in connexion with tuberculous caries of bones and sometimes in association with *tuberculosis verrucosa*. A line of tuberculous gummata may form rather suggestive of sporotrichosis; this disease is not known in Australia. The breaking down tissues contain tubercle bacilli and give positive results on inoculation into guinea-pigs.

Tuberculosis Orificialis.

Tuberculosis orificialis consists of circular, sharply cut-out ulcers about the mouth and the anus in patients with tuberculosis internally. It is a rare condition seen more in sanatoria. Such an ulcer as just described, occurring in the perineum, may be due to tuberculous disease of the bladder. Tubercle bacilli are sometimes quite common in these cases.

Tuberculosis Verrucosa Cutis.

Tuberculosis verrucosa cutis consists of warty formations with pustular exudations, often resistant to treatment. There may be several such lesions and they suggest the condition blastomycosis, but we do not see this disease in Australia.

Anatomical Wart.

Anatomical wart usually occurs on the hands and arms of persons used to making *post mortem* examinations, and also in butchers from handling tuberculous meat. The clinical history of the condition in connexion with these warty formations must be taken into account and tuberculin tests if necessary performed.

There are many other conditions coming under the heading of *tuberculosis cutis, lichen scrofulosorum*, tuberculides *et cetera*, but they are rare conditions and not suitable for discussion in this paper.

The Vernes-Resorcine test is one of the more recently introduced methods of testing skin lesions of doubtful origin.[14] It is a very delicate test for tuberculosis. *Lupus erythematosus* reacts to this test.

References.

(1) J. Darier: "Text Book of Dermatology," 1920, page 546.
(2) H. Radcliffe-Crocker: "Diseases of the Skin," Third Edition, 1905, Volume II, page 1401.
(3) T. McCall Anderson: "A Treatise on Diseases of the Skin," page 9.
(4) Pollitzer, quoted by Darier: *Loco citato*, page 556.
(5) Herman Lawrence: "The Low Relative Humidity of the Atmosphere and Much Sunshine as Causal Factor for the Great Prevalence of Skin Cancer in Australia," THE MEDICAL JOURNAL OF AUSTRALIA, September 29, 1928.
(6) Herman Lawrence: "The Low Relative Humidity of the Atmosphere and Much Sunshine as Causal Factor for the Great Prevalence of Skin Cancer in Australia," *Health Bulletin of Victoria*, January-March, 1929.
(7) Meineri: "*Il Dermosifilgraph*," May, 1930, page 301.
(8) Belgodere: *Annales de Dermatologie et de Syphiligraphie*, November, 1930, page 250.
(9) Meineri: *Loco citato*, page 537.
(10) Belgodere: *Annales de Dermatologie et de Syphiligraphie*, March, 1930, page 329.
(11) Herman Lawrence: "Transactions Sixth International Congress of Dermatology," New York, 1907, page 490.
(12) "Dorland's Dictionary of Medicine," Ninth Edition.
(13) Pollitzer, quoted by J. Darier: *Loco citato*, page 573.
(14) A. Ullmo: "*La réaction de Vernes-Resorcine dans quelques cas de tuberculose cutanée*," *Annales de Dermatologie et de Syphiligraphie*, December, 1930, page 1245.

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British Medical Association News.

SCIENTIFIC.

A MEETING OF THE NEW SOUTH WALES BRANCH OF THE BRITISH MEDICAL ASSOCIATION was held at Lewisham Hospital on November 13, 1930. The meeting took the form of a series of demonstrations by members of the honorary staff.

Fibroid of the Uterus.

DR. W. J. STEWART MCKAY showed a woman, aged seventy years, from whom he had removed a fibroid tumour of the uterus weighing 8·5 kilograms (nineteen pounds). The whole operation had been performed in twenty-three minutes. Dr. McKay said that Bland-Sutton, in his article on total hysterectomy for fibroids in Burghardt's "System of Surgery," had referred to this case among four in which hysterectomy was performed on women of seventy years and upwards. The patient was alive five years after the operation.

Fracture of the Femur.

Dr. McKay's second patient was a jockey who had fractured his femur in a race. The limb had been put in plaster in the country and the plaster had not been removed for two months. A mass of callus as large as a fist formed at the distal end of the upper fragment and joined the proximal extremity of the lower fragment. Incisions were made by Dr. McKay into either side of the thigh and the callus removed by a wire saw. The two fragments were joined by a silver wire and the jockey continued to ride in races for some years.

Interscapulo-Thoracic Amputation.

Dr. McKay showed some photographs of patients on whom he had performed interscapulo-thoracic amputation of the shoulder. He said that he had done this operation successfully on six occasions. One patient shown survived the operation for nine months and death resulted from recurrence of the growth, an endothelioma, spreading throughout the whole thorax.

Another picture was that of a boy of ten years with a swelling of the shoulder joint due to a sarcoma. This swelling appeared after a fall on the deltoid region. In the second picture was seen the very lop-sided appearance of the body after the shoulder was removed by this amputation. Dr. McKay pointed out that though the boy had the appearance of robust health, he died within six months.

Dr. McKay also showed a woman who had been operated on thirty years before for an enormous tumour growing from the scapula. He showed a picture of the patient before the operation. The tumour, which was an enchondroma, was removed with the clavicle, scapula and arm in one piece, which weighed 12·15 kilograms (twenty-seven pounds). The patient was quite well, but said that she still felt as if the tumour were dragging her shoulder down.

Gangrene Due to Ergot.

Dr. McKay showed the picture of a patient who was suffering from what he described as one of the rarest conditions known. The patient, a young woman of twenty-two, became pregnant to a young man who was a pharmacist in the country. Becoming alarmed at her condition, he had made her drink, during one week, twenty ounces of the liquid extract of ergot. As nothing happened, he made her drink during a second week another twenty ounces, but no miscarriage resulted. Then the terminal phalanges of six of her fingers became black and gangrenous. Dr. McKay said that he had waited for some time and had then amputated the distal phalanx of several of the fingers. On looking up the literature on gangrene following the taking of liquid ergot, he had found that the case was almost unique. Of course, gangrene following the ingestion of rye bread was often reported. Dr. McKay said it was interesting to note that the girl did not miscarry.

The Use of Chloride of Zinc in the Uterus.

The next specimen shown by Dr. McKay was a uterus. He said that the exhibit was quite familiar to him, as he had seen at least thirty such specimens in as many years. When working at gynæcology in Berlin nearly forty years before, he had been impressed by the views of Veit, one of the great surgeons of the day. Veit said that chloride of zinc was a wonderful hæmostatic and would stop almost any form of hæmorrhage from the uterus if the uterine cavity were painted with it. Veit warned him that after the application of the zinc a long piece of gauze soaked in bicarbonate of soda should be left in the vagina, other-

wise any fluid draining from the mouth of the uterus would seriously damage the vagina. Dr. McKay said that he had confirmed this observation on several occasions. In one instance, after the removal of a mass of soft friable cancer from the cervix, the crater left behind was stuffed with a swab of cotton wool soaked in a 50% chloride of zinc solution and the gauze soaked in bicarbonate of soda was left in the vagina. After forty-eight hours the swab and the gauze were removed. A week later there was a slight hæmorrhage, and a few days later the whole of the uterus came away without its peritoneal covering. The specimen shown by Dr. McKay was a uterus removed in this way one month previously. Dr. McKay said that he used this method when he found that he could not pull the uterus down, and he took this as an indication that the growth had spread into the tissues by the side of the uterus. He thought that as such patients were all doomed, it might be possible to employ radium with advantage after the uterus had come away.

A Cannula for the Transfusion of Blood.

Dr. McKay showed a cannula that he had prepared for the transfusion of blood by the citrate method. The cannula had one tube that was placed in the vein, and silk was tied round the vein and cannula and the ends fastened to the bars on each side to prevent the cannula from being withdrawn from the vein. The cannula ran back and joined two tubes, one of which was connected with a reservoir containing normal saline solution, the other with a reservoir containing citrated blood. The rubber tube connected with the blood was pinched by a screw and the saline solution alone at first entered the vein. When it was running in satisfactorily, the screw on the saline solution tube was tightened up and the one connected with the citrate solution opened, and it ran in with the same facility as the saline solution. After the citrate-blood mixture was run in, a pint or more of saline solution could also be introduced.

Gall Bladder Scoop.

Dr. McKay's last exhibit was a scoop. It was one that is used at table to extract the marrow from boiled bones. He said that one night at a dinner party this instrument had been handed to him to remove the marrow; it had struck him that it was possible to make of it an excellent gall bladder scoop, and he had removed not less than 10,000 stones with it during the last thirty years.

Hip Joint Lesion.

DR. T. W. LIPSCOMB showed a healthy looking country lad of twelve years of age, who assisted his father on a dairy farm before he went to school and after he came home in the afternoon. Some twelve months before the boy complained of pain in the right knee. The pain was more pronounced at night and persisted for some weeks. The pain then disappeared and the boy developed a limp. When he first presented himself for examination on October 3, 1930, his stance and gait, with some restriction of movement, were suggestive of an early joint lesion, but there was little, if any, spasm of the muscle. A skiagram taken by Dr. Biggs, of Lismore, on September 2, showed an area on the head of the right femur suggestive of early tuberculosis and not unlike the radiological appearance seen in the knee joint in *osteochondritis dessicans*. The boy was put to bed and extension applied to the limb. A skiagram taken one month later showed that the head of the bone appeared normal. The patient had full movement in the joint and was allowed out of hospital on crutches with a patten on the sound foot, and was encouraged to use the joint, but was not allowed to bear any weight on it. Dr. Lipscomb said that a further skiagram would be taken in three months.

Eye Conditions.

DR. JAMES FLYNN showed a traumatic cataract caused by concussion in the eye of a boy aged eleven. He was hit in the eye with a "BB" lead pellet from a "Daisy" air rifle at a distance of twelve yards on October 4, 1930. On examination there was no apparent wound. An X ray examination, which was always undertaken as a matter of routine in such cases, failed to reveal a foreign body. The lens capsule was ruptured, and lens matter was becoming absorbed. Some of it was seen in the anterior chamber. The patient's projection of light was perfect in every direction. Atropine was being used.

Dr. Flynn's second patient was a boy, aged ten, who was suffering from lamellar cataracts. Since birth he had had scarcely any sight in the right eye and defective sight in the left eye. He was said to be subject to epileptic fits. On examination there was a lamellar cataract in each eye. The condition was more pronounced in the right eye. The vision of the right eye was less than $^6/_{60}$ and the vision of the left eye was $^6/_{18}$. With a +1·5 diopter spherical lens the vision in the left eye was $^6/_6$. It was explained that the condition was due to a period of malnutrition at some stage of late intrauterine or early infant life. The diameter of the opacity indicated the size of the lens at the time of the occurrence of the pathological process.

Dr. Flynn's third patient was a woman, aged fifty, who suffered from a dislocated lens of the right eye. A bag snatcher hit her in the eye a week before the meeting. On examination there was considerable subconjunctival ecchymosis. The iris was tremulous. The lens was dislocated in a nasal direction, its free edge being quite apparent with the dilated pupil.

Anaphylactoid Purpura.

DR. H. J. DALY showed a woman, aged fifty-four years, who was suffering from anaphylactoid purpura. For fourteen years the patient had suffered from asthma. At varying intervals she had manifested anaphylactoid phenomena, such as urticarial wheals, purpuric spots and swellings of the angioneurotic type of the face, tongue and various parts of the body. A curious feature was the appearance of glycosuria following the injection of adrenalin for the relief of asthmatic attacks. This aroused the suspicion of the disorder of the suprarenals in their relation to carbohydrate metabolism. The patient was being treated with calcium given by mouth and with intravenous injections of Witte's peptone. She was making considerable progress.

Skiagrams.

DR. A. F. OXENHAM and DR. J. F. B. LANGDON showed a number of interesting skiagrams. Included among the number were some showing the visualization of the gall bladder by Graham's test, several unusual gastro-intestinal thoracic and bony abnormalities.

Dermatological Conditions.

DR. J. W. FLYNN showed a patient who had suffered from coccigenic sycosis for twenty-one years. Complete cure had followed two treatments with X rays by Kienböck's technique. Dr. Flynn explained that when the proper technique was used, all forms of sycosis responded well to treatment.

Dr. Flynn also showed a patient who was suffering from secondary syphilis. He pointed out that the patient had the following unusual combination of lesions; a generalized macular rash, condylomata, sore throat, the scar of a recent chancre and adenomata. In addition the patient complained of malaise and had a temperature of 37·4° C. (99·4° F.).

Dr. Flynn also showed a patient who was suffering from *granuloma pyogenicum*.

Medical Societies.

THE PUBLIC MEDICAL OFFICERS' ASSOCIATION OF NEW SOUTH WALES.

THE fifth annual general meeting of the Public Medical Officers' Association of New South Wales was held at the British Medical Association House, 135, Macquarie Street, Sydney, on January 20, 1931, DR. J. A. L. WALLACE, the President in the chair.

Annual Report.

The annual report for the year 1930 reads as follows:

The political situation which in 1929 was unfavourable for the prosecution of many of our schemes, changed for the worse early in 1930 and later became rather confused. In these circumstances little progress was possible and the Committee has been obliged to adopt a defensive policy and has been satisfied to retain as far as possible the benefits gained in former years. Such an unattractive policy might be expected to test the loyalty of members of the Association, and it must be a matter for congratulation to all concerned that a united front has been maintained.

The Committee met eleven times during the year, the attendances of members being as follows:

Dr. J. A. L. Wallace (*President*)	10
Dr. M. R. Finlayson	4
Dr. S. Evan Jones	9
Dr. E. L. Morgan	9
Dr. A. E. Machin	11
Dr. Dorothy McClemens	8
Dr. H. H. Nowland	7
Dr. W. H. Palmer	5
Dr. J. S. Purdy	5
Dr. H. Hastings Willis	11

The number of members on the roll of the Association at the end of the year was 80. There are still a few eligible persons who have not yet joined the Association, and the decision of the New South Wales Government that all its servants should join the organization appropriate to their calling has not yet influenced them.

No progress has been made in the formation of associations of public medical officers in the smaller States, but our sister Association in Victoria has shown signs of renewed activity during the year. It is considered very desirable in our own interests as well as our colleagues' that the status and remuneration of public medical officers in other Australian States should be appreciably increased.

Our relations with the New South Wales Public Service Board and with the British Medical Association remain cordial and unchanged. Our request of former years for direct representation on the Council of the New South Wales Branch of the British Medical Association has not been repeated because of the strong opposition to the proposal in certain quarters. Other means of obtaining our object of closer contact with the British Medical Association are being sought.

Five circular letters have been distributed during the year. Many matters of interest to members, however, cannot be appropriately published in this way.

The annual social function was a garden party in the Wistaria Garden at the Parramatta Mental Hospital, kindly placed at our disposal by the Inspector-General of Mental Hospitals (Dr. Hogg) and the Medical Superintendent (Dr. Prior). The Minister of Health of New South Wales (Dr. Arthur) and the Councillors of the New South Wales Branch of the British Medical Association were our principal guests, the total number in the party being 72. It was regretted that absence from Sydney prevented the Federal Minister of Health, the Hon. Frank Anstey, from accepting our invitation.

The increase in facilities for post-graduate study in Sydney during the year must be a matter for appreciation by all our members. In particular the British Medical Association is to be congratulated upon the success of its series of clinical demonstrations at the public hospitals. It is hoped these will be continued in the new year. This Association has not this year put forward any schemes for post-graduate study, being content to support and encourage others in their efforts.

To enable our members to take full advantage of these study facilities the agitation for study leave has been renewed. The Public Service Board of New South Wales has been approached and has stated its willingness "to grant reasonable facilities to suitable medical officers" to enable them to "qualify for certain diplomas *et cetera*, the possession of which will enhance their value to departments, provided such facilities do not involve any expense to departments and do not interfere with efficient administration." It is hoped that administrators of departments will interpret this decision in a liberal manner. A request to the Federal Minister of Health for remission of fees to public medical officers attending courses of instruction at the Sydney School of Public Health and Tropical Medicine has been refused.

It is unfortunate that the School of Public Health and Tropical Medicine has commenced its activities at a time when the general depression tends to restrain students from embarking upon a course of study there. The Director and his staff have adopted a very friendly attitude towards this Association, and have invited our members to attend certain lectures without fee. It is hoped that any possible assistance will be given them to build up a first-class School in our midst.

The Association's agreement with the New South Wales Public Service Board expired on June 30, 1930, and after consulting members by means of a referendum in April, 1930, it was decided not to seek increases of salaries, but to be satisfied with a continuation of existing conditions. Negotiations on these lines were successfully conducted, and in October an agreement was signed which continued the salaries of the former agreement until June 30, 1931, subject to variations in the State basic wage, and to such deductions as may be imposed by Parliament.

The undesirable practice of effecting economy at the expense of efficiency has been continued to a varying extent during the year, but in view of the state of the public finances it was thought inadvisable to repeat our protest of the previous year.

A proposal to establish a quarterly journal of the Association was considered early in the year, but as there is not at the present time any reasonable prospect of financing such a venture, nor of insuring continuously an adequate supply of suitable literary material, it was decided to defer further consideration of the matter to a more auspicious occasion.

The question of "medical defence" has been considered, and after discussion with the officers of the New South Wales Medical Union the Committee is of opinion that no better means of protection are available than is afforded by membership of that body.

The financial statement for the year is appended. It will be noted that the reserve fund has been augmented, but has not yet reached a sum large enough to give the Association the financial stability necessary for the prosecution of some of its objects.

Financial Statement.

The annual financial statement for 1930 showed an income of £90 6s. 3d. and an expenditure of £17 11s. 2d. The credit balance at the end of the year was £274 0s. 2d., of which £231 18s. 5d. was invested. It was explained in answer to a question that this was regarded as a reserve fund.

Election of Office Bearers.

The office bearers for the ensuing year are as follows:

President: Dr. Kenneth Smith, C.M.G.

Honorary Secretary: Dr. H. Hastings Willis.

Honorary Treasurer: Dr. E. L. Morgan.

Honorary Auditor: Dr. Elsie J. Dalyell.

Members of Committee: Dr. J. S. Purdy, Dr. E. L. Morgan, Dr. C. Badham (Health Department), Dr. S. Evan Jones and Dr. H. H. Nowland (Mental Hospitals Department), Dr. M. R. Finlayson (Works and Railways), Dr. H. H. Willis (Repatriation Department), and Dr. Dorothy McClemens and Dr. A. E. Machin (Education Department).

DR. J. A. L. WALLACE then introduced Dr. Kenneth Smith to the meeting and vacated the chair in his favour.

Policy of the Association.

DR. E. L. MORGAN initiated a discussion on the policy to be adopted during the ensuing year with regard to salaries, as he thought it very necessary that the Committee should be aware of the views of members on this subject.

DR. H. H. WILLIS thought it was first necessary to decide whether a new agreement should be sought when the present one with the New South Wales Public Service Board expired on June 30 next. If the Federal Government followed a policy of currency inflation, as had been suggested in some quarters, public servants would suffer along with all other salaried persons from the rise in the cost of living which would follow. It might be desired in such circumstances to seek salary increases as others would surely do, in which case an agreement would be embarrassing. If deflation or stabilization were effected, an agreement would be advantageous.

DR. C. BADHAM thought that a more militant policy should be adopted by the Association and that a salary claim should be taken to an arbitration court if that became possible. He understood that the medical officers of the Federal Health Service had had a very happy issue of their approach to the Federal Public Service Arbitrator and he felt sure that this Association would have a similar experience if it approached a State court. New legislation on this matter should be closely watched so that a claim might be lodged as soon as it was possible. There was on record a judicial opinion that a union which was not militant could not justify its existence, and he felt that the Association would find it hard to justify its existence if a more active policy were not adopted in the conduct of its affairs.

DR. E. EVAN JONES said that militancy might be necessary in some matters, but often other methods were efficacious and preferable. During the last four years the Committee had adopted a conciliatory attitude towards the New South Wales Public Service Board and he thought the results sufficiently satisfactory to justify a continuance of that policy. He thought that the prevailing economic depression made it impossible to expect salary increases, and the Association's task might be to retain present rates. Militancy was not a good policy in bad times.

DR. E. SYDNEY MORRIS said that many things might happen in the political world between January and June, 1931, and members should leave it to the Committee to exercise its own judgement and do the best it could in the circumstances which might arise.

DR. A. A. PALMER was of the same opinion. A special meeting could be called if necessary, he said.

DR. J. A. L. WALLACE said he had been informed on good authority that the economic depression would be at its worst in June, 1931. The Committee would possibly find it hard to maintain the present salary scale, but he thought it should make every endeavour to do so.

DR. H. H. WILLIS moved and Dr. S. Evan Jones seconded, *pro forma*:

> That the Committee should during the year 1931 consider the question of enhancing the prestige of public medical officers.

Dr. Willis said that he moved this motion to provoke a discussion, because some members, and one in particular, had complained to him that the Committee had neglected its duty to increase the professional prestige and status of its members as laid down in the rules. He would not plead guilty to that charge, but he would admit that the Committee had not in the past followed any definite line of action with that object solely in view. It was difficult to know what members desired. It had been suggested that some private practitioners claimed a superior status to public medical officers and adopted an objectionable attitude towards them. Some members might desire that the British Medical Association be approached in a belligerent attitude on this matter. Certainly in England during the last ten years the prestige of public practitioners had been enhanced as the result of propaganda by the Society of Medical Officers of Health which the British Medical Association had found embarrassing. That conflict had resulted in the British Medical Association making overtures to the Society and an agreement had been made which gave public medical officers direct representation on the governing bodies of the British Medical Association and its Branches and gave in other ways an improved status to medical officers in the services. He doubted, however, whether it was desirable to pursue such a policy in Australia and it did not follow that such a policy would succeed here as in England.

Asked for instances of objectionable behaviour, Dr. Willis said he was loath to quote actual cases, but no doubt all departments could supply them. He mentioned, however, that certain private practitioners on Pension Appeal Boards were considered by some to be unduly anxious to review the decisions of the permanent medical officers of the Repatriation Department and to belittle them if possible. The practice of upholding appeals by awarding trivial increases of pension, as, for instance, from 50% to 55%, had given offence to some who interpreted such actions as evidence of a desire to upset the departmental assessment when really there was practical agreement on the degree of disability present. Again, the report of the meeting of delegates from the Local Medical Associations in New South Wales in September, 1930, which had appeared in THE MEDICAL JOURNAL OF AUSTRALIA, showed a desire of certain practitioners to attack indirectly medical officers of the New South Wales Health Department by means of propaganda.

It was pleasing to read that a member of the New South Wales Branch Council had said that more conciliatory methods were preferable and it would interest the meeting, Dr. Willis thought, to hear how that matter now stood.

DR. E. SYDNEY MORRIS gave particulars of the squabble referred to, which, he said, he had considered settled several months before it was mentioned at the conference of Local Associations' delegates in September, 1930. No one was more surprised than he was when the matter was resuscitated. He explained the trouble he had taken in this and other cases to meet the representations or criticisms of private practitioners. He had frequently investigated complaints, but had found some practitioners who were very difficult to deal with. On the other hand, he had met many who were deeply grateful for assistance given by his department. Some private practitioners did claim a superior status to the public medical officers, but he thought their pretentions could be ignored. Many of them were most unreasonable people, who made no effort to appreciate any other viewpoint than their own, and far from blaming the officers of the British Medical Association he had great sympathy with them. Their patience must often be sorely tried by the unreasonable attitude of some of their members. He himself had found the Council of the New South Wales Branch of the British Medical Association a very reasonable body of men and had always been able to satisfy them in regard to any complaints concerning departmental activities.

DR. C. BADHAM said he had experienced an intrigue by an outside medical man through political channels. He had pressed for an inquiry, but the matter had been referred from one authority to another for two years, each deciding it had no jurisdiction. He did not complain of lack of support from the Association, because he had not asked for it. He had, however, inquired unofficially if any machinery existed for assistance in such cases and had learned that there was none. He thought this omission should be remedied, as his experience was not unique, several cases having occurred in the past in which respected senior medical officers had been obliged to defend themselves at inquiries instigated through political channels. He thought the medical officers of the Repatriation Department deserved the sympathy of members in being irritated by pinpricks from the private practitioners on the Appeal Boards. It was impossible to distinguish between assessments of 50% and 55% in such cases. The Association should be a shield to its members.

DR. A. A. PALMER said there were two sides to this question. Public practitioners were not always the injured parties in these disputes. Occasionally it was alleged they said and did things which seriously damaged the reputations of general practitioners and seriously affected their practices. This applied especially in workmen's compensation cases. As regards Dr. Badham's matter, he thought the Association should strive to obtain a fair hearing for any of its members who were in trouble. No alteration of the rules was necessary. Power to take such action he regarded as inherent in such an association as this. The Committee should not, however, judge a case nor expend funds in defending a case.

DR. E. S. STOKES hoped members would not develop an inferiority complex. He thought that when a public

medical officer attacked a private practitioner in a compensation case, the latter deserved all he got. Some of the certificates which came before him were really disgraceful. Often the certifier was grossly ignorant of the medical problem on which he had ventured to express a very definite opinion. Nothing but a raking cross-examination in a public court would make some of these men more careful. As regards the Pension Appeal Boards, if some men thought 55% a better assessment than 50%, he saw no reason why they should not say so.

DR. E. L. MORGAN said that as Treasurer he would require an alteration of the rules before he would consent to pay money towards the defence of any member in trouble. He had mentioned this at the last annual general meeting and no alteration in the rules was then made.

DR. S. EVAN JONES agreed that the Association's funds should not be spent in that way, but he thought steps should be taken to insure that all members received fair play when attacked.

DR. A. E. MACHIN said that the private practitioners had a higher status in the eyes of the public because they were more closely in touch with their patients and had thus greater opportunities of cultivating their prestige by social activities and other means. Some certainly regarded themselves as front line soldiers and public medical officers as camp followers of the medical army. This idea would disappear if they were better acquainted with the work in the services. He had found doctors in private practice willing to give credit when they learned of good work being done by men in the services.

DR. G. LAWSON KERR thought the differences would be fewer between private and public practitioners if each understood the other's viewpoint. He suggested that use should be made of THE MEDICAL JOURNAL OF AUSTRALIA to place the viewpoint of public medical officers on current medical politics before the profession.

DR. KENNETH SMITH, from the chair, said the discussion had covered a wider field than did the motion before the meeting. He thought the best way to enhance the prestige of the medical services was to raise the basic salary for medical officers. This was necessary in view of the possibility of a national insurance scheme and the need for certifying medical officers under the scheme. The services would then be more attractive in the eyes of the profession, not only in times of depression such as the present. Dr. Badham's matter was, he thought, one for intra-departmental action. The indignities medical officers of the Repatriation Department had suffered from the decisions of the Pension Appeal Boards were, in his opinion, not so great as suggested and were due to the legislation under which the boards operated rather than to the members of the boards. The departmental officers assessed in accordance with certain schedules and were guided by certain principles which had been established after many years' experience of these cases. The Appeal Boards disregarded these and interpreted the law as requiring them to give the appellant the benefit of every possible doubt and award him the highest assessment possible. There was little real ground for complaint in regard to the decisions of the Assessment Appeal Boards.

Dr. Willis, in closing the discussion, thanked members for the many useful ideas they had given the Committee. He drew attention to a proposal of Dr. Embelton, of Melbourne, that certification under a national health insurance scheme should be placed entirely in the hands of full-time medical officers. He thought it very necessary that the status and remuneration of these should be at least equal to that of the medical men undertaking treatment of patients under the scheme. The motion was then put and carried.

Post-Graduate Work.

ANNUAL REFRESHER COURSE IN ADELAIDE.

ARRANGEMENTS have been made for the second post-graduate refresher course to be held at Adelaide during the week May 25-30, 1931. Dr. H. B. Devine, of Melbourne, will deliver two lectures on surgical subjects of interest to all practitioners. The fee for the course will be two guineas. Members of the British Medical Association may attend Dr. Devine's lectures on payment of one guinea. A limited number of members will be able to go into residence at the Adelaide Hospital or the Children's Hospital to attend the practice of the hospitals during the week following the course. As far as the Children's Hospital is concerned, members would have to take rooms at the Cathedral Hotel, opposite the hospital. At the Adelaide Hospital work in the out-patients' department, the night clinic and the operating theatre will be available to members throughout the week of the course. Intending members are asked to communicate with the Honorary Secretaries, Dr. L. C. Lindon and Dr. F. N. Le Messurier. The syllabus of the course is as follows:

Monday, May 25, 1931.

8.45 to 9.15 a.m.—Registration at Adelaide Hospital.
9.30 to 11 a.m., at the Adelaide Hospital.—Dr. C. T. Ch. de Crespigny: Medical cases (diabetes *et cetera*).
11.15 a.m. to 12.45 p.m., at the Adelaide Hospital.—Dr. A. Britten Jones: Varicose veins.
2.30 to 4.30 p.m., at the Children's Hospital.—Dr. L. O. Betts: Fractures of upper extremity.

Tuesday, May 26, 1931.

9.30 to 11 a.m., at the Adelaide Hospital.—Dr. F. S. Hone: Medical cases, renal disease *et cetera*.
11.15 a.m. to 12.45 p.m., at the Adelaide Hospital.—Dr. G. Lendon: Indications for and induction of artificial pneumothorax.
2.15 to 3.15 p.m., at the Adelaide Hospital, Radium Clinic.—Demonstration of cases.
3.30 to 4.30 p.m., at the Adelaide Hospital.—Dr. H. C. Nott: Radiology. Interpretation of thoracic skiagrams.
8.30 p.m., at the Prince of Wales Theatre, University.—Dr. H. B. Devine: "Worth While Advances in Surgery."

Wednesday, May 27, 1931.

9.30 to 11 a.m., at the Children's Hospital.—Dr. K. S. Hetzel: Rheumatic heart in children.
11.15 a.m. to 12.45 p.m., at the Children's Hospital.—Dr. W. Upton: Common skin diseases.
2.30 to 4 p.m., at the Children's Hospital.—Dr. Ruth Gault: Poliomyelitis.
8.30 p.m., at the Prince of Wales Theatre, University.—Dr. H. B. Devine: "Dangers and Failures in Surgery."

Thursday, May 28, 1931.

9.30 to 11 a.m., at the Adelaide Hospital.—Dr. W. Ray: Medical cases (heart conditions, rheumatic and syphilitic).
11.15 a.m. to 12.45 p.m., at the Adelaide Hospital.—Dr. M. Scott: Surgical cases.
2 to 4.30 p.m., at the Adelaide Hospital.—Dr. I. B. Jose, Dr. P. S. Messent and Dr. L. C. Lindon: Local anæsthesia.

Friday, May 29, 1931.

9.30 a.m. to 12.45 p.m., at the Queen's Home.—Dr. B. H. Swift and Dr. J. B. Dawson: Antenatal and obstetrical demonstrations.
2.30 p.m., at the Adelaide Hospital.—Dr. R. Magarey: Gynæcological cases, including post-abortion sepsis.

Saturday, May 30, 1931.

9.30 a.m. to noon., at the Adelaide Hospital.—Dr. H. Jay, Dr. W. Sangster and Dr. R. M. Glynn: Tonsillectomy. Demonstrations of oto-rhinological cases.

University Intelligence.

THE UNIVERSITY OF SYDNEY.

A MEETING of the Senate of the University of Sydney was held on April 13, 1930.

The following degrees were conferred:

Bachelor of Medicine and Bachelor of Surgery (*M.B., B.S.*): Brown, Thomas Victor; Holmes, Thomas Arthur Glennie; Lloyd-Williams, Eric Hird Victor; Rofe, Harold Adrian Fulton; Saunders, Arthur Clive; Stabback, Reginald James.

Bachelor of Medicine (*M.B.*): Bassetti, John Angelo; Corlis, Wilson Leighton; Pearce, Henry George; Quinlan, Vernon Harding Sydney; Ramsden, Mortimer Maxwell; Tannahill, Robert William, M.Sc.

Master of Surgery (*Ch.M.*): Hellstrom, Carl Oscar.

The Honourable Sir William Cullen, M.A., LL.D., K.C.M.G., was reelected Chancellor of the University for a period of three years as from Lent term, 1931.

Sir Mungo MacCallum, M.A., LL.D., D.Litt., K.C.M.G., was reelected Deputy Chancellor for the year 1931-1932.

The following appointments were made:

Dr. W. E. Fisher, Marion Clare Reddall Scholar for 1931.
Miss Joyce Vickery, Demonstrator in Botany.

Dr. J. K. Maddox, Student Supervisor at Prince Alfred Hospital.

Dr. A. J. Canny, Hebden Research Fellow.

Lecturers and Tutors at the Royal Prince Alfred Hospital: Dr. C. B. Blackburn and Dr. E. W. Fairfax, Lecturers in Clinical Medicine; Dr. H. R. G. Poate and Dr. J. L. McKelvey, Lecturers in Clinical Surgery; Dr. C. G. McDonald, Dr. L. H. Hughes, Dr. A. S. Walker and Dr. W. Cotter Harvey, Tutors in Medicine; Dr. T. Farranridge, Dr. T. M. Furber, Dr. D. W. McCredie and Dr. R. A. Money, Tutors in Surgery; Mr. A. D. Gillies and Mr. H. M. Hercus, Student Demonstrators in Physiology.

On the recommendation of the University Extension Board it was resolved that arrangements be made for a course of forty (40) lectures in elementary Italian, as well as three (3) public lectures on Italian literature. Dr. A. Baccarini, M.C., President of the Dante Alighieri Society, has been invited to deliver the course.

Science Research Scholarships for a period of one year were awarded to: Enid P. Carpenter, B.A. (Psychology); Alice J. Chalmers, B.Sc. (Organic Chemistry); Lilian R. Fraser, B.Sc. (Botany); Muriel G. Holdsworth, B.Sc. (Organic Chemistry); Margaret A. Peck (Zoology); D. E. White (Organic Chemistry); S. E. Williams (Physics).

Approval was given for the expenditure of £250 for structural alterations to and equipment of a radium clinic at Sydney Hospital.

THE UNIVERSITY OF MELBOURNE.

THE Beattie Smith Lectures on Insanity for 1931 will be delivered at the University of Melbourne by Dr. R. A. Noble. The first lecture will be delivered on May 5, 1931, in the Anatomy School; the second lecture will be delivered on May 8, 1931, in the public lecture theatre in the Arts Building. Each lecture will commence at 8 o'clock p.m. The general title will be "Recent Advances in Psychiatry and Mental Hygiene."

Congresses.

INTERNATIONAL CONGRESS OF OTO-RHINO-LARYNGOLOGY.

THE second International Congress of Oto-Rhino-Laryngology will be held at Madrid, Spain, from September 27 to 30, 1932, under the presidency of Professor Tapia. Further information may be obtained from Dr. Garnet Halloran, of 143, Macquarie Street, Sydney, who is a member of the Permanent Committee of the International Congress.

Correspondence.

PIGMENTARY DEGENERATION OF THE RETINA AND SYMPATHECTOMY.

SIR: In September last Dr. Norman Royle published in your journal a detailed account of a sufferer from pigmentary degeneration of the retina, whose visual condition had been materially improved by the operation of sympathectomy. The evidence published by Dr. Royle, however, would not bear scrutiny and was not convincing.

Recently Dr. Royle was invited to present his thesis to a meeting of the Ophthalmological Society of New South Wales. It was based on the assumption that the disease in question was analogous to Raynaud's disease, that is, that it was a spasm of the retinal arteries. The analogy is not a true one. The retinal affection is caused by hyaline degeneration and sclerosis of the ocular vessels due to some heritable defect, followed by atrophy of the retina and optic nerve.

Dr. Brearley read notes of a dozen other cases on which sympathectomy had been done. In some of these (not all, some being too advanced and therefore hopeless) he found definite improvement in vision and enlargement of fields. Obviously, no change for the better can be expected in those nervous elements which are atrophic; but the still functional parts of the retina may be stimulated into increased activity by increasing their blood supply. Indeed, Roemer, in his text book, states that the visual acuity and the fields can be improved by the administration of strychnine, but, he adds, "the disease continues its progress."

Is the (admitted) amelioration of symptoms after sympathectomy permanent? Is the progress of the disease stayed? One would hardly expect this result, but time will show. The case for sympathectomy in this connexion seems to me to stand or fall on this.

In the meantime, the best interests of our patients will be served by our suspending judgement. I think we ought not at this stage to advise a severe operation until we know that the improvement (which can also be effected by drugs) is permanent.

Perhaps Dr. Royle will furnish your readers with a progress report on the patient referred to in his original note in the journal of September 13, 1930. Can this man, eight months after operation, still read small print, and is the 10% increase in the field maintained? If so, then a definite advance may have been made in the treatment of this hitherto intractable malady.

Yours, etc.,

E. TEMPLE SMITH.

141, Macquarie Street,
Sydney,
March 30, 1931.

FRACTURES AND RHEUMATISM.

SIR: In your edition of April 11 Dr. Forbes Mackenzie refers to a case of fractured leg getting cured of chronic rheumatism. I would suggest that the benefit was derived from absorption of the blood extravasated round the fracture. The practice of intramuscular injections of the patient's own blood is receiving considerable attention in other parts with some quite remarkable results. It would be a pity for any enthusiast to try and emulate the Chinaman in the ancient story, who burnt down his house to procure roast pork.

Yours, etc.,

SYDNEY PERN.

12, Collins Street,
Melbourne.
April 14, 1931.

NOTICE.

THE Honorary Secretary of the Queensland Branch of the British Medical Association has forwarded for publication the following statement.

It is the policy of the Queensland Branch of the British Medical Association to give all members of the profession the right to act as lodge medical officers. That is, the British Medical Association, Queensland, recognizes the principle of the open list.

There has been very little difficulty in introducing this principle in Queensland with the exception of Toowoomba.

In spite of many efforts to convince the Toowoomba Associated Friendly Societies Medical Institute of the fairness of the open list, and despite the fact that the Council of the Queensland Branch has made every effort to come to an amicable working arrangement with this institute, they have recently broken off negotiations and have definitely declared that under no consideration will they agree to the principle of the open list.

In these circumstances the Queensland Branch of the British Medical Association is taking steps to establish a British Medical Association Contract Medical Service in Toowoomba.

An organizer has been appointed and has already taken up his duties.

The principles that are being followed are those laid down by the annual representative meeting of the British Medical Association, England, in July, 1906.

Diary for the Month.

MAY 5.—New South Wales Branch, B.M.A.: Organization and Science Committee.
MAY 6.—Victorian Branch, B.M.A.: Branch.
MAY 7.—South Australian Branch, B.M.A.: Council.
MAY 8.—Queensland Branch, B.M.A.: Council.
MAY 12.—New South Wales Branch, B.M.A.: Ethics Committee.
MAY 14.—Victorian Branch, B.M.A.: Council.
MAY 19.—New South Wales Branch, B.M.A.: Executive and Finance Committee.
MAY 22.—Queensland Branch, B.M.A.: Council.
MAY 26.—New South Wales Branch, B.M.A.: Medical Politics Committee.
MAY 27.—Victorian Branch, B.M.A.: Council.
MAY 28.—South Australian Branch, B.M.A.: Branch.
MAY 28.—New South Wales Branch, B.M.A.: Branch.
JUNE 2.—New South Wales Branch, B.M.A.: Organization and Science Committee.

Medical Appointments.

Dr. F. K. Bush (B.M.A.), of Bendigo, has been selected for appointment to a Commission in the Royal Army Medical Corps and is proceeding to England in the R.M.S. *Mooltan* to take up the duties of his appointment. Dr. Bush is the first Australian medical graduate to be selected for appointment to a commission in the Royal Army Medical Corps under the arrangements with the War Office whereby two commissions are granted to Australian medical graduates annually. The commission dates from the time of embarkation in Australia and on appointment a commencing salary of £500 *per annum*, together with an outfit allowance of £50, is paid. No expenditure by the Commonwealth is involved. One vacancy for 1931 still exists.

Medical Appointments Vacant, etc.

For announcements of medical appointments vacant, assistants, *locum tenentes* sought, etc., see "Advertiser," page xvi.

PERTH HOSPITAL, PERTH, WESTERN AUSTRALIA: Radiologist and Radium Therapeutist (male), Junior Resident Medical Officers.

ROYAL HOSPITAL FOR WOMEN, SYDNEY, NEW SOUTH WALES: Resident Medical Officer.

TARA COTTAGE MATERNITY AND FIRST AID HOSPITAL, TARA, QUEENSLAND: Medical Superintendent.

THE BRISBANE AND SOUTH COAST HOSPITALS BOARD, QUEENSLAND: Honorary In-Patient Physician.

Medical Appointments: Important Notice.

MEDICAL practitioners are requested not to apply for any appointment referred to in the following table, without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, Tavistock Square, London, W.C.1.

BRANCH.	APPOINTMENTS.
NEW SOUTH WALES: Honorary Secretary, 135, Macquarie Street, Sydney.	Australian Natives' Association. Ashfield and District United Friendly Societies' Dispensary. Balmain United Friendly Societies' Dispensary. Friendly Society Lodges at Casino. Leichhardt and Petersham United Friendly Societies' Dispensary. Manchester Unity Medical and Dispensing Institute, Oxford Street, Sydney. North Sydney Friendly Societies' Dispensary Limited. People's Prudential Assurance Company, Limited. Phœnix Mutual Provident Society.
VICTORIAN: Honorary Secretary, Medical Society Hall, East Melbourne.	All Institutes or Medical Dispensaries. Australian Prudential Association, Proprietary, Limited. Mutual National Provident Club. National Provident Association. Hospital or other appointments outside Victoria.
QUEENSLAND: Honorary Secretary, B.M.A. Building, Adelaide Street, Brisbane.	Members desiring to accept appointment in ANY COUNTRY HOSPITAL, are advised to submit a copy of their agreement to the Council before signing, in their own interests. Brisbane Associated Friendly Societies' Medical Institute. Mount Isa Hospital. Mount Isa Mines. Toowoomba Associated Friendly Societies' Medical Institute.
SOUTH AUSTRALIAN: Secretary, 207, North Terrace, Adelaide.	All Lodge Appointments in South Australia. All Contract Practice Appointments in South Australia.
WESTERN AUSTRALIAN: Honorary Secretary, 65, Saint George's Terrace, Perth.	All Contract Practice Appointments in Western Australia.
NEW ZEALAND (Wellington Division): Honorary Secretary, Wellington.	Friendly Society Lodges, Wellington, New Zealand.

Editorial Notices.

MANUSCRIPTS forwarded to the office of this journal cannot under any circumstances be returned. Original articles forwarded for publication are understood to be offered to THE MEDICAL JOURNAL OF AUSTRALIA alone, unless the contrary be stated.

All communications should be addressed to "The Editor," THE MEDICAL JOURNAL OF AUSTRALIA, The Printing House, Seamer Street, Glebe, New South Wales. (Telephones: MW 2651-2.)

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